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CONTRACT NO. DE-AC05-86OR21548

POST-REMEDIAL ACTION REPORT FOR THE MATERIAL STAGING AREA WORK ZONE (WP-437/RU018)

WELDON SPRING SITE REMEDIAL ACTION PROJECT
WELDON SPRING, MISSOURI

MARCH 2001

REV. 0




RECORD



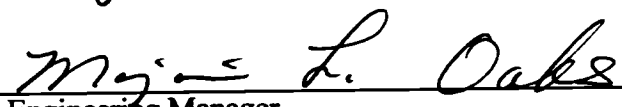


U.S. Department of Energy
Oak Ridge Operations Office
Weldon Spring Site Remedial Action Project

Prepared by MK-Ferguson Company and Jacobs Engineering Group

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 MORRISON KNUDSEN CORPORATION MK-FERGUSON GROUP Weldon Spring Site Remedial Action Project Contract No. DE-AC05-86OR21548	
	Rev. No. 0
PLAN TITLE: Post-Remedial Action Report for the Material Staging Area Work Zone (WP-437/RU018)	

APPROVALS

 Environmental Safety and Health Manager	<u>03/02/01</u> Date
 Data Administration Coordinator	<u>3/5/01</u> Date
 Engineering Manager	<u>3-21-01</u> Date
 Project Quality Manager	<u>3/22/2001</u> Date
 Deputy Project Director	<u>3/22/01</u> Date

DOE/OR/21548-874

Weldon Spring Site Remedial Action Project

Post-Remedial Action Report for the Material Staging Area Work Zone (WP-437/RU018)

EXECUTIVE SUMMARY

Revision 0

March 2001

Prepared by

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Prepared for

U.S. DEPARTMENT OF ENERGY
Oak Ridge Operations office
Under Contract DE-AC05-86OR21548

EXECUTIVE SUMMARY

Work Package-437 (WP-437) consists of 12 work zones and, due to the magnitude of the work package, a distinct Post-Remedial Action Report will address each zone separately. This report refers specifically to activities in the Materials Staging Area (MSA) work zone.

Contaminated soil was removed from the MSA as specified in the *Record of Decision for Remedial Action at the Chemical Plant Area of the Weldon Spring Site* (ROD). The objective of this action was to ensure that contaminated areas within the work zone were remediated to meet the cleanup criteria specified in the *Chemical Plant Area Cleanup Attainment Confirmation Plan*. The sample locations and analytical parameters are identified in the *Confirmation Sampling Plan Details for the Disposal Cell Facility (WP-437)* (Sampling Plan). The sampling frequency, sampling methods, and statistical evaluation were performed in accordance with the *Chemical Plant Area Cleanup Attainment Confirmation Plan*.

The MSA has been designated as Remedial Unit (RU) 18 and subdivided into confirmation units (CUs) that measure approximately 2,000 m² each. The work zone includes the material staging area, the MSA retention basin, and a portion of the Ash Pond isolation dike. Contaminants of concern (COCs) were identified for each CU using characterization soil sample results. COCs identified for RU018 included Radium-226, Radium-228, Thorium-230, Uranium-238, lead, trinitrotoluene (TNT), and polychlorinated biphenyls (PCBs). This post-remedial action report summarizes the remediation of 19 CUs as defined in the *Sampling Plan*, and one additional CU that was added to the work package during field activities.

Remedial activities for each CU included excavation of contaminated soil, radiological walkover surveying, and confirmation soil sampling. Preliminary results were reviewed and the CU was released to the subcontractor for backfilling and final grading. When the final analytical results were received, the data were compared to the preliminary results to verify that the established cleanup standards were achieved. Final analytical results for RU018 are presented below. This table was generated using the final data set compiled from all samples representing soils left in place.

SUMMARY OF ANALYTICAL RESULTS FOR RU018 IN WP-437

CONTAMINANT	NO. OF SAMPLES	CONCENTRATION RANGE	AVERAGE CONCENTRATION	SURFACE ALARA	SURFACE CRITERIA	RESULTS >ALARA
Ra-226 (pCi/g)	370	0.43 - 1.90	1.29	5.00	6.20	0
Ra-228 (pCi/g)	370	0.48 - 1.75	1.19	5.00	6.20	0
Total Radium (pCi/g)	370	0.98 - 3.36	2.48	5.00	6.20	0
Th-230 (pCi/g)	17	0.71 - 5.97	1.52	5.00	6.20	1
Th-232 (pCi/g)	12	0.97-1.67	1.17	5.00	6.20	0
U-238 (pCi/g)	415	0.86 - 22.30	1.86	30.00	120.00	0
PAH (mg/kg)	3	0.00 - 0.03	0.01	0.44	5.60	0
Pb (mg/kg)	4	11.00 - 13.40	12.55	240	450	0
PCB (mg/kg)	37	0.00 - 1.90	0.05	0.65	8.00	1
TNT (mg/kg)	8	0.11 - 0.76	0.21	14	140	0

As indicated above, the average concentration for each COC was below the corresponding cleanup criteria and the ALARA goal. COC averages were calculated for each CU and found to be below ALARA, and the average radiological contaminant concentration in each 100 m² area was below cleanup criteria. Based on the analytical results presented above, all CUs within RU018 were released for unrestricted use.

DOE/OR/21548-874

Weldon Spring Site Remedial Action Project

Post-Remedial Action Report for the Material Staging Area Work Zone (WP-437/RU018)

Revision 0

March 2001

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ABSTRACT

Work Package 437 (WP-437) has been divided into 12 work zones. This report details the confirmation field activities and analytical results for contaminated soil removal of the Materials Staging Area portion of WP-437. This 14-acre area is further subdivided into 20 confirmation units.

Materials stockpiled at the Materials Staging Area included asbestos-containing materials, metal debris and machinery from building demolition, roll-off boxes containing personal protection equipment, polychlorinated biphenyl (PCB) contaminated concrete, non-regulated wood debris, brine material from the site water treatment plant, and roll-off boxes containing filter cake from the same water treatment plant.

Soil characterization results and pre-excavation walkovers determined that the work zones contained contaminant concentrations that exceeded the ALARA goals established in the *Record of Decision for Remedial Action at the Chemical Plant Area of the Weldon Spring Site*. Remediation was designed to achieve surface ALARA goals, and confirmation of soil remediation was required to meet ROD cleanup standards. Final confirmation data verify that the established goals and standards were achieved.

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1. INTRODUCTION

1.1 Purpose

WP-437 is divided into 12 work zones, 11 of which are identified in Figure 1-1. In addition, there is the Vicinity Property DA-6 work zone located off site just west of the Ash Pond work zone. This report details the confirmation field activities and analytical results for contaminated soil removal of the Materials Staging Area (MSA) portion of Work Package-437 (WP-437). The 14-acre former MSA work zone is further subdivided into 20 confirmation units (CUs) that are collectively known as remedial unit (RU) 18 and are identified in Figure 1-2.

Materials stockpiled at the MSA included asbestos-containing materials, metal debris and machinery from building demolition, roll-off boxes containing personal protection equipment, polychlorinated biphenyl (PCB) contaminated concrete, non-regulated wood debris, brine material from the site water treatment plant, and roll-off boxes containing filter cake from the same water treatment plant.

Soil characterization results and pre-excavation walkovers of the WP-437 work zones determined that the work zones contained contaminant concentrations that exceeded the As Low As Reasonably Achievable (ALARA) goals established in the *Record of Decision for Remedial Action at the Chemical Plant Area of the Weldon Spring Site* (ROD) (Ref. 1). Remediation was designed to achieve surface ALARA goals, and confirmation of soil remediation to the ROD cleanup standards was required.

1.2 Scope

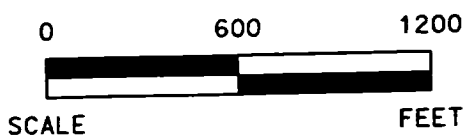
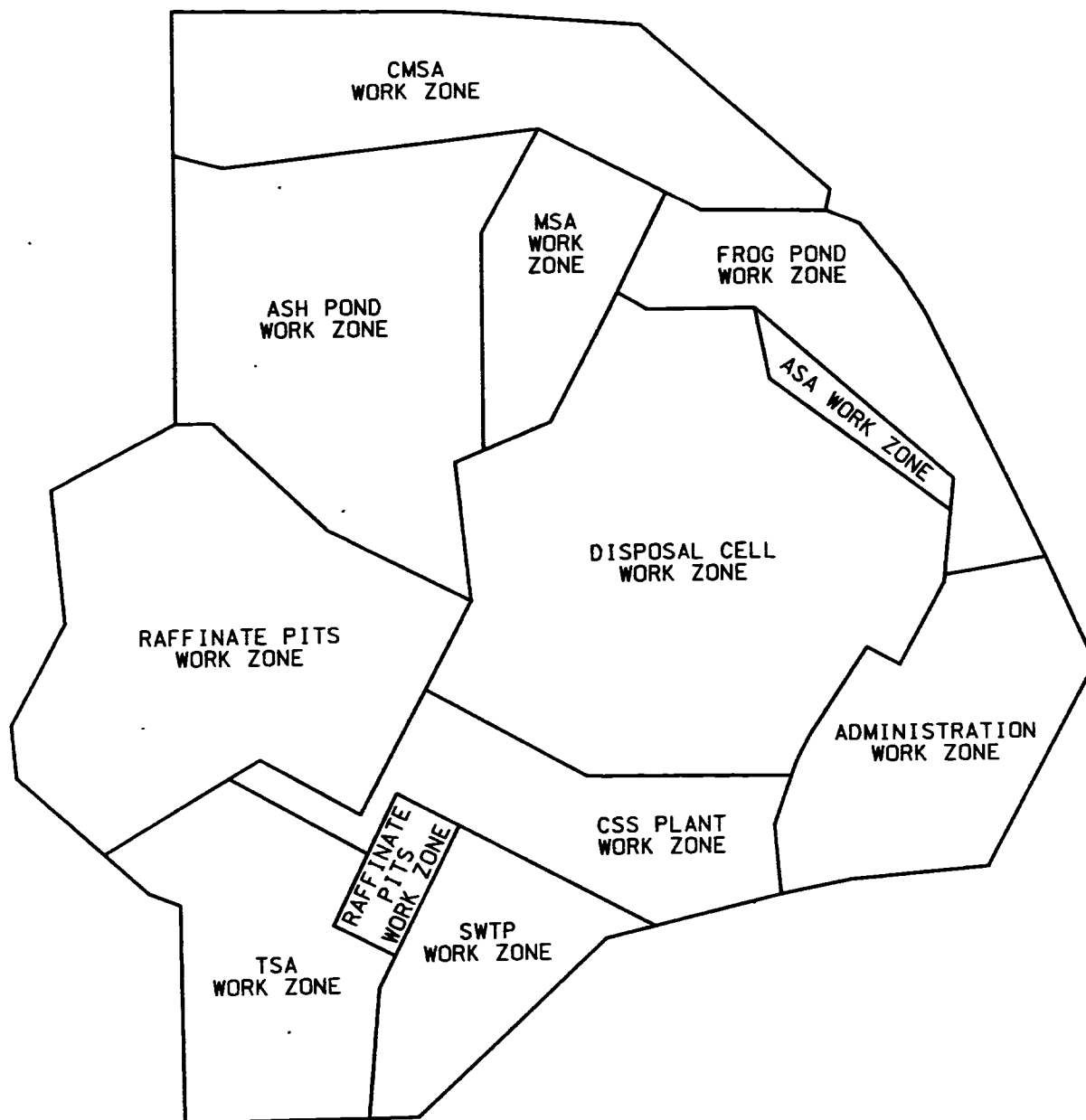
This report describes only the remedial activities and confirmation surveying and sampling conducted on contaminated soils within RU018. Confirmation walkovers and soil sampling were conducted in accordance with the *Confirmation Sampling Plan Details for the Disposal Cell Facility (WP-437)* (Ref. 2). This plan was developed to ensure that the objectives identified in the *Chemical Plant Area Cleanup Attainment Confirmation Plan* (Ref. 3) were accomplished, and to ensure that established remediation requirements of the ROD were met.

1.3 Remediation and Confirmation Process

This report details the activities conducted to remediate the MSA portion of WP-437, which consists of CUs 170 through 188, and CU396. Remediation consisted of excavation of contaminated soils and debris. Following the remediation activities, walkovers were conducted and confirmation samples were collected to ensure that all contaminated materials had been remediated.

The entire remediation process included characterization sampling, historical data review, contaminants of concern (COC) identification, confirmation plan development, contaminated

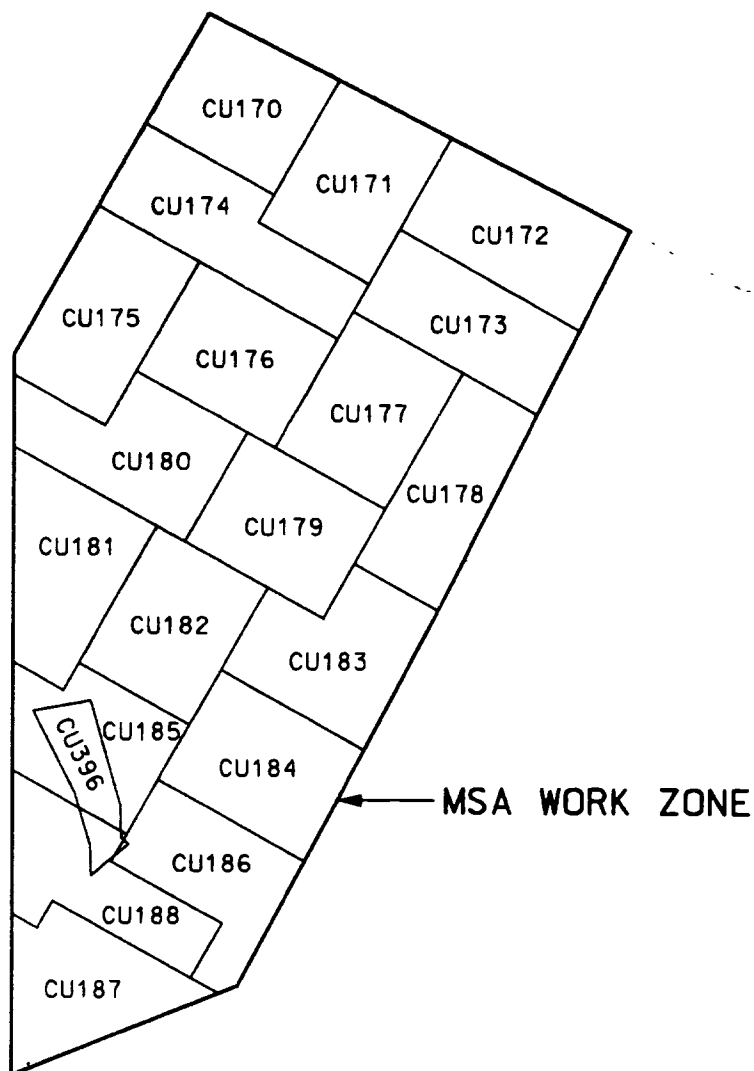
soil excavation, radiological walkover surveys, confirmation soil sampling, preliminary and final data review, completion of disposition forms, quality assurance/quality control (QA/QC) review, summary of findings and conclusions, and closure report preparation.



WP-437 WORK ZONE DESIGNATIONS

FIGURE 1-1

REPORT NO.: DOE/OR/21548-883	EXHIBIT NO.: A/CP/001/0101
ORIGINATOR: LB	DATE: 2/7/01
DRAWN BY: GLN	



0 200 400

SCALE FEET

CONFIRMATION UNITS IN REMEDIAL UNIT 18

FIGURE 1-2

REPORT NO.:	DOE/OR/21548-874	EXHIBIT NO.:	A/CP/002/0101
ORIGINATOR:	LB	DRAWN BY:	GLN
		DATE:	1/2/01

2. PRE-REMEDIAL ACTIVITIES

2.1 Review of Characterization Data

Contaminants of concern (COCs) were identified for each confirmation unit by reviewing results of characterization data. The full process for identifying COCs is detailed in the *Confirmation Sampling Plan Details for the Disposal Cell Facility (WP-437)* (Ref. 2). Radiological COCs identified for RU018 were Radium-226 (Ra-226), Radium-228 (Ra-228), Thorium-230 (Th-230), and Uranium-238 (U-238). Chemical COCs were lead, polychlorinated biphenyls (PCBs), and trinitrotoluene (TNT). Polynuclear aromatic hydrocarbons (PAH) were added as a COC in affected areas of CU181 when cinders were identified during remediation activities.

2.2 Data Quality Objectives

Data Quality Objectives (DQOs) were identified to specify data quality and ensure that the data would be sufficient to support the decision making process throughout remedial activities, including the confirmation process. Confirmation DQOs were developed for sampling and analyzing soils during remediation and for the subsequent data evaluation. The DQOs were designed to make statistically defensible decisions regarding attainment of cleanup standards. Sampling and analytical programs for the WP-437 work zones were designed in accordance with DQOs stated in the *Chemical Plant Area Cleanup Attainment Confirmation Plan* (Ref. 3).

2.3 Cleanup Standards

The objective of the Department of Energy (DOE) ALARA process is to reduce exposures and risks associated with residual contamination. The ROD (Ref. 1) established two different sets of cleanup standards: risk-based cleanup criteria and As Low As Reasonably Achievable (ALARA) goals. Remedial activities for WP-437 were designed to remove soil where the COC concentrations were found by characterization or during remediation activities to be above ALARA goals. Table 2-1 summarizes the cleanup criteria and ALARA goals established in the ROD that are applicable for COCs in the MSA work zone. Throughout the remedial activities at RU018, COC concentrations were evaluated with the ALARA process.

2.4 Cleanup Confirmation Process

The cleanup confirmation process is used to determine, under the remedial guidelines, if remediation activities have achieved the cleanup standards. Figure 2-1 shows the cleanup confirmation process for remedial activities conducted at the WP-437 area.

The decision-making process specifies how the data will be applied and evaluated within the cleanup confirmation process. The decision-making process includes provisions for any hot

spots that may be encountered by applying a formula to determine the acceptable concentration for the COC.

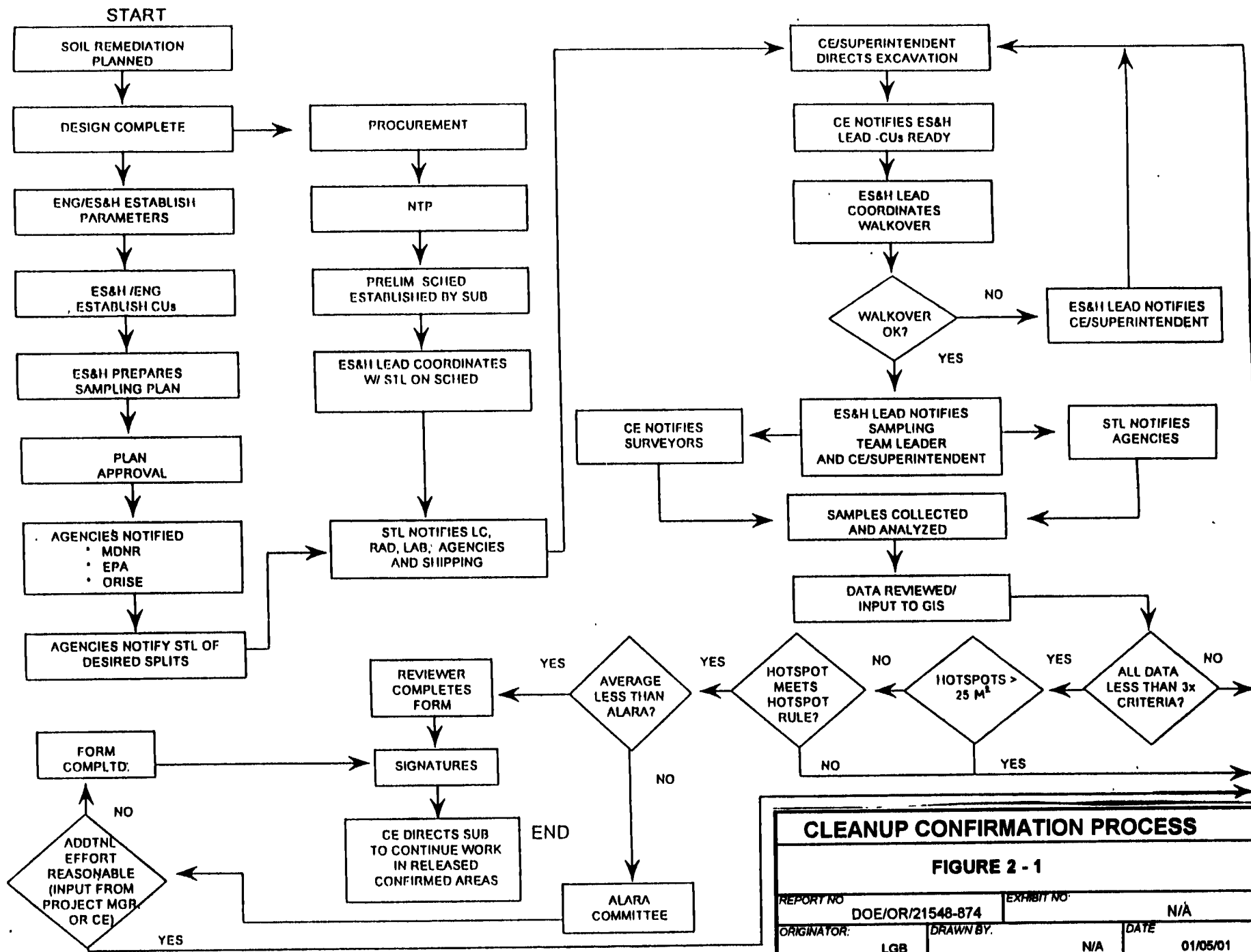
Table 2-1 ROD Cleanup Standards for COCs within the WP-437 MSA Work Zone

RADIONUCLIDE	SURFACE ^(a)		SUBSURFACE ^(b)	
	ALARA	CRITERIA	ALARA	CRITERIA
Ra-226 (pCi/g)	5.0	6.2	5.0	16.2
Ra-228 (pCi/g)	5.0	6.2	5.0	16.2
Total Radium (pCi/g)	5.0	6.2	5.0	16.2
Th-230 (pCi/g)	5.0	6.2	5.0	16.2
U-238 (pCi/g)	30.0	120	30.0	120.0
Chemical				
PAH (mg/kg)	0.44	5.6	5.6	56
Pb (mg/kg)	240	450	450	4,500
PCB (mg/kg)	0.65	8	8	80
TNT (mg/kg)	14	140	140	1,400

(a) Values listed for surface soils apply to concentrations within the upper 15 cm (6 in.) of the soil column.

(b) Values for subsurface apply to concentrations in soils below 15 cm (6 in.).

Source: *Record of Decision for Remedial Action at the Chemical Plant Area of the Weldon Spring Site* (Ref 1)



3. REMEDIAL ACTIVITIES

3.1 Excavation Activities

Contaminated soils and other debris from the material staging area (MSA) work zone were first excavated to design depth as detailed in the MSA work zone specifications (Ref. 7). After the initial excavation was complete, radiological walkover surveys were conducted to evaluate the need for additional excavation. The walkover surveys were conducted using a 2 in. x 2 in. sodium iodide (NaI) scintillation detector. When the surveys indicated no additional excavation was needed, confirmation soil samples were collected.

Confirmation results were then reviewed, and additional excavation and confirmation sampling was conducted in hot spot areas, if necessary. After achieving cleanup standards, a disposition form was completed with preliminary analytical results. The form was reviewed and signed by authorized project personnel. The confirmation unit (CU) was then released back to the subcontractor.

3.2 Field Activities

Field activities completed during remediation, such as walkover surveys and soil sampling, were conducted in accordance with procedures specified in the *Confirmation Sampling Plan Details for the Disposal Cell Facility (WP-437)* (Ref. 2). Field activities were conducted to achieve and document sampling objectives specified in the *Chemical Plant Area Cleanup Attainment Confirmation Plan* (Ref. 3). All sampling and remedial action surveys were conducted and documented in accordance with Weldon Spring Site Remedial Action Project (WSSRAP) Environmental Safety and Health (ES&H) procedures.

3.2.1 Walkover Surveys

Radiological walkover surveys were conducted after excavation was completed to determine if confirmation sample collection could begin. The surveys were conducted using a 2 in. x 2 in. NaI scintillation detector. The survey readings were within an acceptable range (less than 1.5 times background) throughout the entire work zone. The ranges for each CU are listed in the CU Summary Forms in Section 4 of this report. Copies of the final walkover forms can be found in Appendix A.

3.2.2 Soil Sampling

Once the walkovers were sufficiently completed, soil sampling was conducted as part of the confirmation process. The sampling locations for CUs in RU018 are shown in the figures in Section 4. Analytical suites for the CUs were dependant upon the COC list developed from historical information and characterization data, as discussed in Section 2.

One Thorium-230 hot spot was encountered during confirmation of this RU. The location was further remediated in accordance with the guidelines established in the *Chemical Plant Area Cleanup Attainment Confirmation Plan* (Ref. 3). The subsequent survey and confirmation sample results indicated that contaminants were below cleanup criteria and the averages were less than ALARA; therefore, no further remediation was conducted for RU018. Disposition forms were completed following the receipt of preliminary analytical data for all CUs within the MSA work zone.

3.3 Laboratory Activities

Radiological analyses for RU018 were conducted at the on-site laboratory in accordance with the *Project Management Contractor Quality Assurance Program* (Ref. 4) and the *Environmental Quality Assurance Project Plan* (EQAP) (Ref. 5). Chemical analyses for RU018 were conducted at subcontracted off-site laboratories using Contract Laboratory Program (CLP) methodologies. Summaries of the analytical results for each CU can be found in Section 4 of this report. Analytical data were subjected to data evaluation and validation upon receipt from the laboratory.

3.4 Verification Activities

The Oak Ridge Institute for Science and Education (ORISE) was contracted by the DOE to verify confirmation soil sampling in the chemical plant area. Verification activities included independent walkover radiological surveys and collection and analysis of soil samples to verify proper disposition of CUs. Field verification activities were conducted in accordance with ORISE's final survey plan (Ref. 8). ORISE verification indicated no hot spots were identified with RU018.

4. CONFIRMATION UNIT RESULTS SUMMARY

This section summarizes the confirmation unit analytical results for the 20 CUs in RU018. In total, 415 locations were sampled between March 1998 and July 2000. Preliminary results were below cleanup criteria with the exception of one Thorium-230 hot spot in CU396. The area was reexcavated and the location was resampled. The resample results were less than ALARA. Average COC concentrations for RU018 remained below ALARA goals and all 100 m² averages were less than criteria.

After the preliminary data were reviewed, disposition forms were completed and signed by authorized reviewers. Based on the preliminary confirmation data, all CUs in RU018 were fully released as complying with surface cleanup standards.

Note that the preliminary data were the initial results available immediately from the laboratory and were used for releases. These preliminary results could vary from the final results based upon laboratory quality checks or Weldon Spring Site Remedial Action Project (WSSRAP) verification activities.

Upon receipt of the data packages, the final data were reviewed and compared to the preliminary data. The final analytical results agreed with the preliminary results and indicated that the remedial activities were completed. The final results met the cleanup standards as detailed in the *Chemical Plant Area Cleanup Area Attainment Confirmation Plan* (Ref. 3) for all CUs in RU018. Tables 4-1 through 4-20 and associated figures provide the confirmation details for each CU. The final data are presented in Appendix B.

Table 4 - 1 Summary of CU170

CU	170	RU	18	DATE RELEASED FOR UNRESTRICTED USE:	
COC	Ra-226	<input checked="" type="checkbox"/>	As	10 / 1 / 98	
	Ra-228	<input checked="" type="checkbox"/>	Cr	<input checked="" type="checkbox"/> SURFACE	<input type="checkbox"/> SUBSURFACE
	Th-230	<input type="checkbox"/>	Pb	EACH 100m ² < CRITERIA? <input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
	Th-232	<input type="checkbox"/>	Tl	LOCATION DESCRIPTION: This CU is located in the northwest	
	U-238	<input checked="" type="checkbox"/>	PAH	corner of the MSA work zone.	
			PCB		
			TNT		
Reference Figure: 4 - 1					

WALKOVER SURVEY INFORMATION

BACKGROUND: 11000 cpm FINAL SURVEY(S) BELOW
1.5 X BACKGROUND ? ☒ YES ☐ NO

DATE(S) SCANNED: 9/28/98

CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 27 AVERAGES < ALARA? ☒ YES ☐ NO

TOTAL # OF UTILITY SAMPLES : N/A HOTSPOTS? ☐ YES ☒ NO

ADDITIONAL EXCAVATION REQUIRED? ☐ YES ☒ NO

GENERAL COMMENTS - All results are below ALARA.

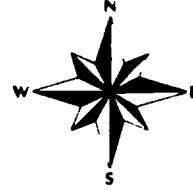
ORISE ACTION - None

ALARA COMMITTEE ACTION - None

CU SUMMARY DATA

Ra-226	27	1.1 - 1.68	1.41	5	6.2	0	0
Ra-228	27	0.57 - 1.63	1.24	5	6.2	0	0
Total Radium	27	1.97 - 3.26	2.65	5	6.2	0	0
U-238	27	1.35 - 2.54	1.79	30	120	0	0

NOTE: Radiological contaminants are listed in pCi/g.



SC-17002-S

SC-17003-S

SC-17007-S SC-17004-S

SC-17011-C SC-17008-S SC-17005-S

SC-17012-S SC-17009-S SC-17101-S

SC-17013-S SC-17010-S

SC-17017-S SC-17014-S SC-17105-S

SC-17021-C SC-17018-S SC-17015-S

SC-17022-S SC-17019-S SC-17109-S

SC-17023-S SC-17020-S

SC-17024-S SC-17113-S

SC-17025-S

SC-17117-S

150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU018
Confirmation Unit CU170

Figure: 4-1

REPORT NO.: DOE/OR/21548-874

EXHIBIT NO

ORIGINATOR MGL

DRAWN BY: LGB

DATE 12/19/00

Table 4 -2 Summary of CU171

CU **171** RU **18**

COC Ra-226 ☒ As ☐
 Ra-228 ☒ Cr ☐
 Th-230 ☐ Pb ☐
 Th-232 ☐ Tl ☐
 U-238 ☒ PAH ☐
 PCB ☒
 TNT ☐

Reference Figure: **4 - 2**

DATE RELEASED FOR UNRESTRICTED USE:**10 / 6 / 98**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE
 EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: This CU is located along the north
border of the MSA work zone.

WALKOVER SURVEY INFORMATIONBACKGROUND: 11000 cpmFINAL SURVEY(S) BELOW
1.5 X BACKGROUND ?☒ YES☐ NODATE(S) SCANNED: 9/28/98**CONFIRMATION SAMPLING INFORMATION**

TOTAL # OF

SAMPLE LOCATIONS :

30AVERAGES < ALARA? ☒ YES☐ NOHOTSPOTS? ☐ YES☒ NO

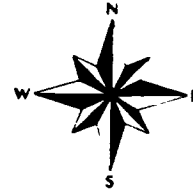
TOTAL # OF

UTILITY SAMPLES :

0ADDITIONAL EXCAVATION REQUIRED? ☐ YES☒ NOGENERAL COMMENTS - One PCB result > ALARA, but average is < criteria.ORISE ACTION - NoneALARA COMMITTEE ACTION - None**CU SUMMARY DATA**

Ra-226	30	1.11 - 1.77	1.37	5	6.2	0	0
Ra-228	30	0.61 - 1.63	1.22	5	6.2	0	0
Total Radium	30	1.94 - 3.04	2.58	5	6.2	0	0
U-238	30	1.34 - 2.15	1.67	30	120	0	0
PCB	6	0 - 1.9	0.32	0.65	8	1	0

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.



SC-17101-S
SC-17102-S
SC-17105-S SC-17103-S
SC-17106-S SC-17104-S
SC-17109-S SC-17107-S SC-17201-S
SC-17110-S SC-17108-S
SC-17113-S SC-17111-S
SC-17114-S SC-17208-S
SC-17117-S SC-17112-S
SC-17115-S SC-17215-S
SC-17118-S SC-17116-S
SC-17121-S SC-17119-S SC-17222-S
SC-17122-S SC-17120-S
SC-17123-S SC-17301-S
SC-17124-S
SC-17308-S

150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU018
Confirmation Unit CU171

Figure: 4-2

REPORT NO. DOE/OR/21548-874

EXHIBIT NO.

ORIGINATOR MGL

DRAWN BY LGB

DATE 12/19/00

Table 4 - 3 Summary of CU172

CU **172** RU **18**

COC Ra-226 ☒ As ☐
 Ra-228 ☒ Cr ☐
 Th-230 ☐ Pb ☐
 Th-232 ☐ Tl ☐
 U-238 ☒ PAH ☐
 PCB ☒
 TNT ☐

Reference Figure: **4 - 3**

DATE RELEASED FOR UNRESTRICTED USE:**10 / 6 / 98**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE
 EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: This CU is located in the northeast corner of the MSA work zone.

WALKOVER SURVEY INFORMATIONBACKGROUND: 11000 cpm

FINAL SURVEY(S) BELOW

1.5 X BACKGROUND ?

☒ YES☐ NODATE(S) SCANNED: 9/28/98**CONFIRMATION SAMPLING INFORMATION**

TOTAL # OF

SAMPLE LOCATIONS :

32AVERAGES < ALARA? ☒ YES☐ NOHOTSPOTS? ☐ YES☒ NO

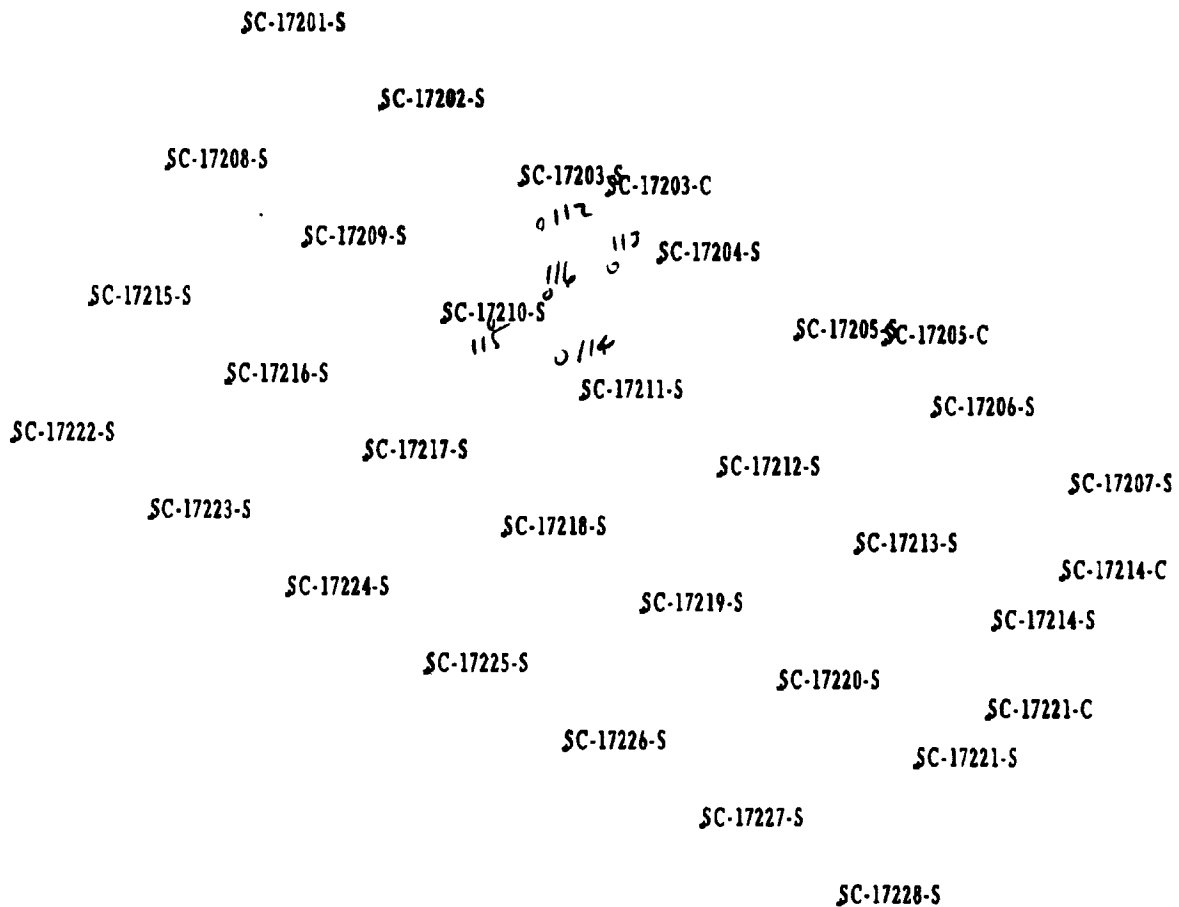
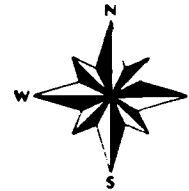
TOTAL # OF

UTILITY SAMPLES :

0ADDITIONAL EXCAVATION REQUIRED? ☐ YES☒ NOGENERAL COMMENTS - All results are below ALARA.ORISE ACTION - NoneALARA COMMITTEE ACTION - None**CU SUMMARY DATA**

Ra-226	32	1.00 - 1.58	1.31	5	6.2	0	0
Ra-228	32	0.57 - 1.58	1.16	5	6.2	0	0
Total Radium	32	1.70 - 3.02	2.47	5	6.2	0	0
U-238	32	1.29 - 2.72	1.73	30	120	0	0
PCB	11	0 - 0.04	0.003	0.65	8	0	0

NOTE. Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.



Sample Locations in Remedial Unit RU018 Confirmation Unit CU172

Figure: 4-3

REPORT NO	DOE/OR/21548-874	EXHIBIT NO	
ORIGINATOR	MGL	DRAWN BY	LGB
		DATE	12/19/00

Table 4 - 4 Summary of CU173

CU	173	RU	18
COC	Ra-226	<input checked="" type="checkbox"/>	As
	Ra-228	<input checked="" type="checkbox"/>	Cr
	Th-230	<input type="checkbox"/>	Pb
	Th-232	<input type="checkbox"/>	Tl
	U-238	<input checked="" type="checkbox"/>	PAH
			PCB
			TNT

Reference Figure: **4 - 4**

DATE RELEASED FOR UNRESTRICTED USE:**10 / 21 / 98**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE
 EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: *This CU is located in the northeast area of the MSA work zone.*

WALKOVER SURVEY INFORMATION

BACKGROUND: 4200 - 11000 cpm
 (shielded) (not shielded)

FINAL SURVEY(S) BELOW
 1.5 X BACKGROUND ?

☒ YES☐ NO

DATE(S) SCANNED: 9/28/98 10/16/98

CONFIRMATION SAMPLING INFORMATION

TOTAL # OF
 SAMPLE LOCATIONS : 28

AVERAGES < ALARA? ☒ YES ☐ NO

HOTSPOTS? ☐ YES ☒ NO

TOTAL # OF
 UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? ☐ YES ☒ NO

GENERAL COMMENTS - *All results are below ALARA.*

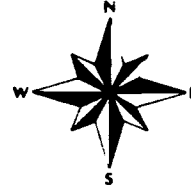
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

CU SUMMARY DATA

Ra-226	28	0.85 - 1.56	1.27	5	6.2	0	0
Ra-228	28	0.65 - 1.70	1.28	5	6.2	0	0
Total Radium	28	1.89 - 3.03	2.55	5	6.2	0	0
U-238	28	1.23 - 1.99	1.63	30	120	0	0

NOTE: Radiological contaminants are listed in pCi/g.



SC-17222-S

SC-17223-S

SC-17301-S

SC-17224-S

SC-17302-S

SC-17225-S

SC-17308-S

SC-17303-S

SC-17226-S

SC-17309-S

SC-17304-S

SC-17227-S

SC-17315-S

SC-17310-S

SC-17305-S

SC-17228-S

SC-17316-S

SC-17311-S

SC-17306-S

SC-17317-S

SC-17312-S

SC-17307-S

SC-17318-S

SC-17313-S

SC-17319-S

SC-17314-S

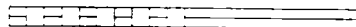
SC-17320-S

SC-17321-S

150 75 0 150 FEET



50 25 0 50 METERS



Sample Locations in Remedial Unit RU018
Confirmation Unit CU173

Figure: 4-4

REPORT NO.: DOE/OR/21548-874

EXHIBIT NO

ORIGINATOR MGL

DRAWN BY LGB

DATE 12/19/00

Table 4 - 5 Summary of CU174

CU	174	RU	18
COC	Ra-226	<input checked="" type="checkbox"/>	As
	Ra-228	<input checked="" type="checkbox"/>	Cr
	Th-230	<input type="checkbox"/>	Pb
	Th-232	<input type="checkbox"/>	Tl
	U-238	<input checked="" type="checkbox"/>	PAH
			PCB
			TNT

Reference Figure: **4 - 5**

DATE RELEASED FOR UNRESTRICTED USE:**10 / 6 / 98**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE
 EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: *This CU is located in the northwest area of the MSA work zone.*

WALKOVER SURVEY INFORMATIONBACKGROUND: 11000 cpm
 FINAL SURVEY(S) BELOW
 1.5 X BACKGROUND ?
☒ YES☐ NODATE(S) SCANNED: 9/28/98**CONFIRMATION SAMPLING INFORMATION**

TOTAL # OF

SAMPLE LOCATIONS :

32AVERAGES < ALARA? ☒ YES☐ NOHOTSPOTS? ☐ YES☒ NO

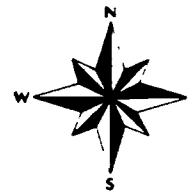
TOTAL # OF

UTILITY SAMPLES :

0ADDITIONAL EXCAVATION REQUIRED? ☐ YES☒ NOGENERAL COMMENTS - *All results are below ALARA.*ORISE ACTION - *None*ALARA COMMITTEE ACTION - *None***CU SUMMARY DATA**

Ra-226	32	1.19 - 1.88	1.45	5	6.2	0	0
Ra-228	32	0.57 - 1.55	1.22	5	6.2	0	0
Total Radium	32	1.87 - 3.27	2.68	5	6.2	0	0
U-238	32	1.34 - 3.16	1.76	30	120	0	0

NOTE: Radiological contaminants are listed in pCi/g.



SC-17022-S
SC-17023-S
SC-17402-S SC-17024-S
SC-17403-S SC-17025-S
SC-17407-S SC-17404-S SC-17117-S
SC-17408-S SC-17405-S
SC-17416-S SC-17409-S SC-17121-S
SC-17417-S SC-17410-S SC-17122-S
SC-17418-S SC-17411-S SC-17123-S
SC-17419-S SC-17412-S SC-17124-S
SC-17420-S SC-17413-S SC-17308-S
SC-17421-S SC-17414-S
SC-17422-S SC-17315-S
SC-17423-S
SC-17701-S

150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU018
Confirmation Unit CU174

Figure: 4-5

REPORT NO.: DOE/OR/21548-874

EXHIBIT NO

ORIGINATOR MGL

DRAWN BY LGB

DATE 12/19/00

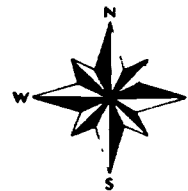
Table 4 - 6 Summary of CU175

CU	175	RU	18	DATE RELEASED FOR UNRESTRICTED USE: <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 5px 0;">6 / 30 / 00</div> CLEANUP STANDARD <input checked="" type="checkbox"/> SURFACE <input type="checkbox"/> SUBSURFACE EACH 100m² < CRITERIA? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO LOCATION DESCRIPTION: <i>This CU is located along the northwest border of the MSA work zone.</i>
COC	Ra-226	<input checked="" type="checkbox"/>	As	<input type="checkbox"/>
	Ra-228	<input checked="" type="checkbox"/>	Cr	<input type="checkbox"/>
	Th-230	<input type="checkbox"/>	Pb	<input type="checkbox"/>
	Th-232	<input type="checkbox"/>	Tl	<input type="checkbox"/>
	U-238	<input checked="" type="checkbox"/>	PAH	<input type="checkbox"/>
			PCB	<input type="checkbox"/>
			TNT	<input type="checkbox"/>
Reference Figure: <u>4 - 6</u>				

WALKOVER SURVEY INFORMATION**BACKGROUND:** 10,000 - 11,000 cpm**FINAL SURVEY(S) BELOW****1.5 X BACKGROUND ?**☒ **YES**☐ **NO****DATE(S) SCANNED:** 9/30/98 6/22/00**CONFIRMATION SAMPLING INFORMATION****TOTAL # OF****SAMPLE LOCATIONS :**31**AVERAGES < ALARA?** ☒ **YES**☐ **NO****HOTSPOTS?** ☐ **YES**☒ **NO****TOTAL # OF****UTILITY SAMPLES :**0**ADDITIONAL EXCAVATION REQUIRED?** ☐ **YES**☒ **NO****GENERAL COMMENTS -** All results are below ALARA.**ORISE ACTION -** None**ALARA COMMITTEE ACTION -** None**CU SUMMARY DATA**

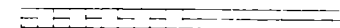
Ra-226	29	0.84 - 1.78	1.36	5	6.2	0	0
Ra-228	29	0.58 - 1.75	1.22	5	6.2	0	0
Total Radium	29	1.77 - 3.09	2.57	5	6.2	0	0
U-238	31	1.19 - 5.71	2.15	30	120	0	0

NOTE: Radiological contaminants are listed in pCi/g.

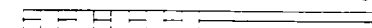


SC-17416-S
 SC-17501-C SC-17417-S
 SC-17502-S SC-17418-S
 SC-17503-S SC-17419-S
 SC-17506-S SC-17504-S
 SC-17509-C SC-17507-S SC-17601-S
 SC-17510-S SC-17508-S
 SC-17511-S SC-17606-S
 SC-17514-S SC-17512-S
 SC-17517-C SC-17515-S SC-17611-S
 SC-17518-S SC-17516-S
 SC-17519-S SC-17616-S
 SC-17522-S SC-17520-S
 SC-17523-S SC-18001-S
 SC-17524-S
 SC-18005-S

150 75 0 150 FEET



50 25 0 50 METERS



Sample Locations in Remedial Unit RU018 Confirmation Unit CU175

Figure: 4-6

REPORT NO.: DOE/OR/21548-874		EXHIBIT NO.	
ORIGINATOR	MGL	DRAWN BY	LGB
		DATE	12/19/00

Table 4 - 7 Summary of CU176

CU **176** RU **18**

COC Ra-226 ☒ As ☐
 Ra-228 ☒ Cr ☐
 Th-230 ☐ Pb ☐
 Th-232 ☐ Tl ☐
 U-238 ☒ PAH ☐
 PCB ☐
 TNT ☐

Reference Figure: **4 - 7**

DATE RELEASED FOR UNRESTRICTED USE:**10 / 6 / 98**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE
 EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: *This CU is located in the north
 central portion of the MSA work zone.*

WALKOVER SURVEY INFORMATIONBACKGROUND: 11000 cpmFINAL SURVEY(S) BELOW
1.5 X BACKGROUND ?☒ YES☐ NODATE(S) SCANNED: 9/30/98**CONFIRMATION SAMPLING INFORMATION**

TOTAL # OF

SAMPLE LOCATIONS :

30AVERAGES < ALARA? ☒ YES☐ NOHOTSPOTS? ☐ YES☒ NO

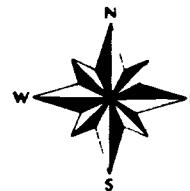
TOTAL # OF

UTILITY SAMPLES :

0ADDITIONAL EXCAVATION REQUIRED? ☐ YES☒ NOGENERAL COMMENTS - *All results are below ALARA.*ORISE ACTION - *None*ALARA COMMITTEE ACTION - *None***CU SUMMARY DATA**

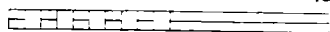
Ra-226	30	0.96 - 1.64	1.43	5	6.2	0	0
Ra-228	30	0.57 - 1.60	1.24	5	6.2	0	0
Total Radium	30	1.87 - 3.12	2.67	5	6.2	0	0
U-238	30	1.33 - 6.15	1.94	30	120	0	0

NOTE: Radiological contaminants are listed in pCi/g.

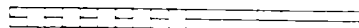


SC-17419-S
SC-17420-S
SC-17601-S SC-17421-S
SC-17602-S SC-17422-S
SC-17606-S SC-17603-S SC-17423-S
SC-17607-S SC-17604-S SC-17701-S
SC-17611-S SC-17608-S SC-17605-S
SC-17612-S SC-17609-S SC-17705-S
SC-17616-S SC-17613-S SC-17610-S
SC-17617-S SC-17614-S SC-17709-S
SC-17618-S SC-17615-S
SC-17619-S SC-17713-S
SC-17620-S
SC-17717-S

150 75 0 150 FEET



50 25 0 50 METERS



Sample Locations in Remedial Unit RU018
Confirmation Unit CU176

Figure: 4-7

REPORT NO.:	DOE/OR/21548-874	EXHIBIT NO.:	
ORIGINATOR:	MGL	DRAWN BY:	LGB
		DATE	12/19/00

Table 4 - 8 Summary of CU177

CU	177	RU	18
COC	Ra-226	<input checked="" type="checkbox"/>	As
	Ra-228	<input checked="" type="checkbox"/>	Cr
	Th-230	<input type="checkbox"/>	Pb
	Th-232	<input type="checkbox"/>	Tl
	U-238	<input checked="" type="checkbox"/>	PAH
			PCB
			TNT

Reference Figure: **4 - 8****DATE RELEASED FOR UNRESTRICTED USE:****10 / 21 / 98**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE
 EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: *This CU is located in the north
 central portion of the MSA work zone.*

WALKOVER SURVEY INFORMATION

BACKGROUND: 4200 - 11000 cpm
 (shielded) (not shielded)

FINAL SURVEY(S) BELOW
 1.5 X BACKGROUND ?

☒ YES☐ NODATE(S) SCANNED: 9/30/98 10/16/98**CONFIRMATION SAMPLING INFORMATION**

TOTAL # OF

SAMPLE LOCATIONS :

30AVERAGES < ALARA? ☒ YES☐ NOHOTSPOTS? ☐ YES☒ NO

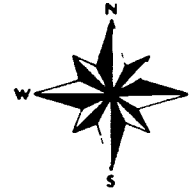
TOTAL # OF

UTILITY SAMPLES :

0ADDITIONAL EXCAVATION REQUIRED? ☐ YES☒ NOGENERAL COMMENTS - *All results are below ALARA.*ORISE ACTION - *None*ALARA COMMITTEE ACTION - *None***CU SUMMARY DATA**

Ra-226	30	0.96 - 1.60	1.26	5	6.2	0	0
Ra-228	30	0.60 - 1.70	1.25	5	6.2	0	0
Total Radium	30	1.76 - 2.92	2.51	5	6.2	0	0
U-238	30	1.27 - 2.06	1.58	.30	120	0	0

NOTE: Radiological contaminants are listed in pCi/g.



SC-17315-S

SC-17316-S

SC-17701-S SC-17317-S

SC-17702-S SC-17318-S

SC-17705-S SC-17703-S SC-17319-S

SC-17706-S SC-17704-S

SC-17709-S SC-17707-S SC-17801-S

SC-17710-S SC-17708-S

SC-17713-S SC-17711-S SC-17804-S

SC-17714-S SC-17712-S

SC-17717-S SC-17715-S SC-17807-S

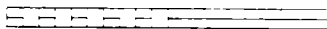
SC-17718-S SC-17716-S

SC-17719-S SC-17810-S

SC-17720-S

SC-17813-S

150 75 0 150 FEET



50 25 0 50 METERS



Sample Locations in Remedial Unit RU018
Confirmation Unit CU177

Figure: 4-8

REPORT NO :	DOE/OR/21548-874	EXHIBIT NO	
ORIGINATOR	MGL	DRAWN BY	LGB
		DATE	12/19/00

Table 4 - 9 Summary of CU178

CU **178** RU **18**

COC Ra-226 ☒ As ☐

Ra-228 ☒ Cr ☐

Th-230 ☐ Pb ☐

Th-232 ☐ TI ☐

U-238 ☒ PAH ☐

PCB ☐

TNT ☐

Reference Figure: **4 - 9**

DATE RELEASED FOR UNRESTRICTED USE:**10 / 21 / 98**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE

EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: *This CU is located along the east border of the MSA work zone.*

WALKOVER SURVEY INFORMATION

BACKGROUND: 4200 cpm
(shielded)

FINAL SURVEY(S) BELOW
1.5 X BACKGROUND ?

☒ YES☐ NO

DATE(S) SCANNED: 10/16/98

CONFIRMATION SAMPLING INFORMATION

TOTAL # OF

SAMPLE LOCATIONS :

29AVERAGES < ALARA? ☒ YES☐ NOHOTSPOTS? ☐ YES☒ NO

TOTAL # OF

UTILITY SAMPLES :

0ADDITIONAL EXCAVATION REQUIRED? ☐ YES☒ NO

GENERAL COMMENTS - *All results are below ALARA.*

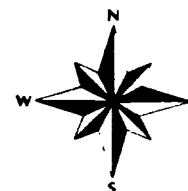
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

CU SUMMARY DATA

Ra-226	29	0.80 - 1.46	1.11	5	6.2	0	0
Ra-228	29	0.59 - 1.63	1.3	5	6.2	0	0
Total Radium	29	1.53 - 2.89	2.41	5	6.2	0	0
U-238	29	1.23 - 3.08	1.66	30	120	0	0

NOTE: Radiological contaminants are listed in pCi/g.



SC-17319-S
SC-17320-S
SC-17801-S
SC-17321-S
SC-17802-S
SC-17803-C
SC-17803-S
SC-17804-S
SC-17805-S
SC-17806-C
SC-17806-S
SC-17807-S
SC-17808-S
SC-17809-S
SC-17810-S
SC-17811-S
SC-17812-C
SC-17812-S
SC-17813-S
SC-17814-S
SC-17815-S
SC-17816-S
SC-17817-S
SC-17818-C
SC-17818-S
SC-17819-S
SC-17820-S
SC-17821-S
SC-17822-S

150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU018 Confirmation Unit CU178

Figure: 4-9

REPORT NO.	DOE/OR/21548-874	EXHIBIT NO.	
ORIGINATOR	MGL	DRAWN BY	LGB
		DATE	12/19/00

Table 4 - 10 Summary of CU179

CU	179	RU	18	DATE RELEASED FOR UNRESTRICTED USE:	
COC	Ra-226	<input checked="" type="checkbox"/>	As	10 / 30 / 98	
	Ra-228	<input checked="" type="checkbox"/>	Cr	<input checked="" type="checkbox"/> SURFACE	<input type="checkbox"/> SUBSURFACE
	Th-230	<input type="checkbox"/>	Pb	EACH 100m ² < CRITERIA?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
	Th-232	<input type="checkbox"/>	Tl	LOCATION DESCRIPTION: <i>This CU is located in the center of</i>	
	U-238	<input checked="" type="checkbox"/>	PAH	<i>the MSA work zone.</i>	
			PCB		
			TNT		
Reference Figure: 4 - 10					

WALKOVER SURVEY INFORMATION

BACKGROUND: 6000 cpm (shielded) FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? ☒ YES ☐ NO

DATE(S) SCANNED: 10/23/98

CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS: 30 AVERAGES < ALARA? ☒ YES ☐ NO

TOTAL # OF UTILITY SAMPLES: 0 HOTSPOTS? ☐ YES ☒ NO

ADDITIONAL EXCAVATION REQUIRED? ☐ YES ☒ NO

GENERAL COMMENTS - *All results are below ALARA.*

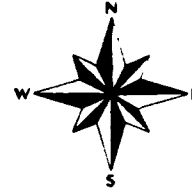
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

CU SUMMARY DATA

Ra-226	30	0.43 - 1.67	1.28	5	6.2	0	0
Ra-228	30	0.52 - 1.59	1.16	5	6.2	0	0
Total Radium	30	0.98 - 3.17	2.44	5	6.2	0	0
U-238	30	1.30 - 2.10	1.65	30	120	0	0
PCB	19	results < detection limit	N/A	0.65	8	0	0

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.



SC-17620-S

SC-17717-S

SC-17901-S SC-17718-S

SC-17902-S SC-17719-S

SC-17906-S SC-17903-S SC-17720-S

SC-17907-S SC-17904-S SC-17813-S

SC-17911-S 117 SC-17908-S SC-17905-S

SC-17912-S 121 SC-17909-S SC-17816-S

SC-17916-S SC-17913-S SC-17910-S

SC-17917-S SC-17914-S SC-17819-S

SC-17918-S SC-17915-S

SC-17919-S SC-18301-S

SC-17920-S

SC-18305-S

160 76 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU018 Confirmation Unit CU179

Figure: 4-10

REPORT NO.	DOE/OR/21548-874	EXHIBIT NO.	
ORIGINATOR:	MGL	DRAWN BY:	LGB
		DATE	12/19/00

Table 4 - 11 Summary of CU180

CU	180	RU	18
COC	Ra-226	X	As
	Ra-228	X	Cr
	Th-230		Pb
	Th-232		Tl
	U-238	X	PAH
			PCB
			TNT

Reference Figure: 4 - 11

DATE RELEASED FOR UNRESTRICTED USE:

7 / 3 / 00

CLEANUP STANDARD ☒ **SURFACE** ☐ **SUBSURFACE**
EACH 100m² < CRITERIA? ☒ **YES** ☐ **NO**

LOCATION DESCRIPTION: This CU is located along the west border of the MSA work zone.

WALKOVER SURVEY INFORMATION

BACKGROUND: 4,800 - 10,000 cpm
(shielded) (unshielded)

**FINAL SURVEY(S) BELOW
1.5 X BACKGROUND ?**

☒ YES ☐ NO

DATE(S) SCANNED: 10/26/98 6/22/00

CONFIRMATION SAMPLING INFORMATION

TOTAL # OF
SAMPLE LOCATIONS : 32

AVERAGES < ALARA? ☒ YES ☐ NO

HOTSPOTS? ☐ YES ☒ NO

TOTAL # OF
UTILITY SAMPLES . 0

ADDITIONAL EXCAVATION REQUIRED? ☐ YES ☒ NO

GENERAL COMMENTS - All results are below ALARA.

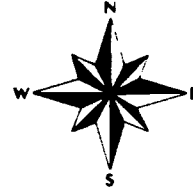
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

CU SUMMARY DATA

Ra-226	29	0.43 - 1.66	1.25	5	6.2	0	0
Ra-228	29	0.55 - 1.53	1.17	5	6.2	0	0
Total Radium	29	0.98 - 2.91	2.42	5	6.2	0	0
U-238	32	1.18 - 22.30	2.42	30	120	0	0
PCB	4	results < detection limit	N/A	0.65	8	0	0

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.



SC-17522-S
SC-17523-S
SC-17524-S
SC-18011-S
SC-18012-S
SC-18018-S
SC-18019-S
SC-18020-S
SC-18021-S
SC-18022-S
SC-18023-S
SC-17616-S
SC-17617-S
SC-18001-S
SC-18002-S
SC-18003-S
SC-18004-S
SC-18005-S
SC-18006-S
SC-18007-S
SC-18014-S
SC-18015-S
SC-18016-S
SC-17618-S
SC-17619-S
SC-17620-S
SC-17901-S
SC-18008-S
SC-17906-S
SC-17911-S
SC-17916-S

150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU018
Confirmation Unit CU180

Figure: 4-11

REPORT NO.: DOE/OR/21548-874

EXHIBIT NO.

ORIGINATOR: MGL

DRAWN BY: LGB

DATE 12/19/00

Table 4 - 12 Summary of CU181

CU	181	RU	18
COC	Ra-226	<input checked="" type="checkbox"/>	As
	Ra-228	<input checked="" type="checkbox"/>	Cr
	Th-230	<input checked="" type="checkbox"/>	Pb
	Th-232	<input type="checkbox"/>	Tl
	U-238	<input checked="" type="checkbox"/>	PAH
			PCB
			TNT

Reference Figure: **4 - 12**

DATE RELEASED FOR UNRESTRICTED USE:**7 / 19 / 00**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE
 EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: *This CU is located along the west border of the MSA work zone.*

WALKOVER SURVEY INFORMATION

BACKGROUND: 4,800 - 11,000 cpm
 (shielded) (unshielded)

FINAL SURVEY(S) BELOW
 1.5 X BACKGROUND ?

☒ YES☐ NO

DATE(S) SCANNED: 10/26/98 1/28/99 6/22/00 7/5/00

CONFIRMATION SAMPLING INFORMATION

TOTAL # OF
 SAMPLE LOCATIONS : 32

AVERAGES < ALARA? ☒ YES ☐ NO

HOTSPOTS? ☐ YES ☒ NO

TOTAL # OF
 UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? ☐ YES ☒ NO

GENERAL COMMENTS - *Nitroaromatics were identified in soil beneath the cell haul ramp, thus TNT was added as a COC in this area and two biased sample locations were added to confirm removal of the nitroaromatics. Excavation of the cell haul ramp yielded cinders, thus the area was resampled for radiological COCs and PAHs.*

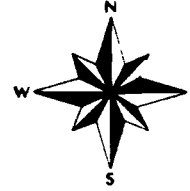
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

CU SUMMARY DATA

Ra-226	13	0.29 - 1.82	1.25	5	6.2	0	0
Ra-228	13	0.38 - 1.51	0.98	5	6.2	0	0
Total Radium	13	0.67 - 3.10	2.23	5	6.2	0	0
Th-230	5	0.71 - 1.38	0.96	5	6.2	0	0
U-238	30	1.05 - 3.90	1.95	30	120	0	0
Lead	2	12.8 - 13.0	12.9	240	450	0	0
PAH	3	0 - 0.03	0.01	0.44	5.6	0	0
TNT	4	0.11 - 0.76	0.29	14	140	0	0

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg. Nitro-aromatics are listed in ug/g.



SC-18018-S

SC-18019-S
SC-18102-C

SC-18020-S

SC-18103-S

SC-18021-S

SC-18104-S

SC-18022-S

SC-18108-S

SC-18105-S

SC-18023-S

SC-18109-S
SC-18114-C

SC-18106-S

SC-18110-S

SC-18021-S

SC-18114-S
SC-18114-S-RS

SC-18111-S

SC-18115-S
SC-18115-S-RS

SC-18025-S

SC-18119-S

SC-18116-S
SC-18116-S-RS

SC-18029-S

SC-18120-S

MSAX-1

SC-18122-S

SC-18023-S

SC-18123-S

MSAX-2

SC-18127-S
SC-18127-S

SC-18126-S

MSAX-3

SC-18124-S
SC-18501-S

150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU018
Confirmation Unit CU181

Figure: 4-12

REPORT NO: DOE/OR/21548-874

EXHIBIT NO:

ORIGINATOR MGL

DRAWN BY: LGB

DATE 1/16/01

Table 4 - 13 Summary of CU182

CU **182** RU **18**

COC Ra-226 ☒ As ☐

Ra-228 ☒ Cr ☐

Th-230 ☐ Pb ☒

Th-232 ☐ Tl ☐

U-238 ☒ PAH ☐

PCB ☒

TNT ☒

Reference Figure: **4 - 13**

DATE RELEASED FOR UNRESTRICTED USE:**11 / 3 / 98**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE

EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: This CU is located in the center of the MSA work zone.

WALKOVER SURVEY INFORMATION

BACKGROUND: 4800 cpm
(shielded)

FINAL SURVEY(S) BELOW
1.5 X BACKGROUND ?

☒ YES☐ NO

DATE(S) SCANNED: 10/26/98

CONFIRMATION SAMPLING INFORMATION

TOTAL # OF
SAMPLE LOCATIONS : 30

AVERAGES < ALARA? ☒ YES ☐ NO

HOTSPOTS? ☐ YES ☒ NO

TOTAL # OF
UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? ☐ YES ☒ NO

GENERAL COMMENTS - *MSAX-3 was originally identified as a possible lead contamination area based on the structure that occupied the location. Further characterization efforts to confirm or deny lead contamination were not possible until the structure was removed, which occurred after the Sampling Plan was developed. All characterization results were less than ALARA, so Pb was removed as a COC within this area. (Reference IOCs from Melissa Lutz - 10/6/98 and 5/6/99.) SC-18217-S was offset in order to represent MSAX-2.*

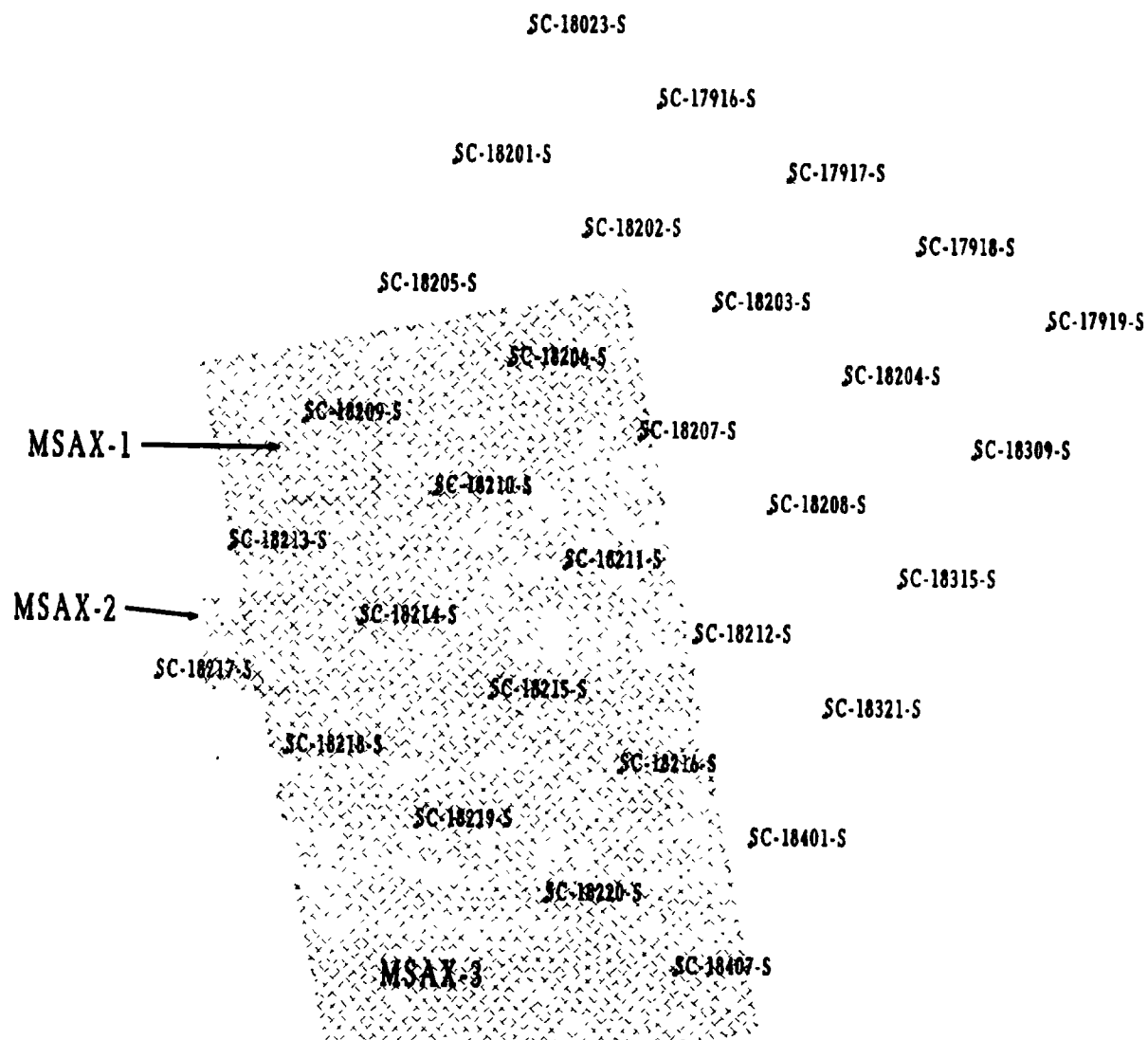
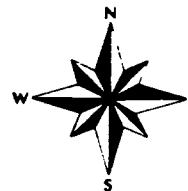
ORISE ACTION - None

ALARA COMMITTEE ACTION - None

CU SUMMARY DATA

Ra-226	30	0.92 - 1.65	0.81	5	6.2	0	0
Ra-228	30	0.59 - 1.55	1.19	5	6.2	0	0
Total Radium	30	1.86 - 2.98	2.49	5	6.2	0	0
U-238	30	1.34 - 3.59	1.73	30	120	0	0
Lead	4	11.0 - 13.4	12.55	240	450	0	0
PCB	4	0	N/A	0.65	8	0	0
TNT	4	0.11 - 0.24	0.28	14	140	0	0

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg. Nitro-aromatics are listed in ug/g.



150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU018 Confirmation Unit CU182

Figure: 4-13

REPORT NO:	DOE/OR/21548-874	EXHIBIT NO:	
ORIGINATOR:	MGL	DRAWN BY:	LGB
		DATE	12/19/00

Table 4 - 14 Summary of CU183

CU	183	RU	18
COC	Ra-226	<input checked="" type="checkbox"/>	As
	Ra-228	<input checked="" type="checkbox"/>	Cr
	Th-230		Pb
	Th-232		Tl
	U-238	<input checked="" type="checkbox"/>	PAH
			PCB
			TNT

Reference Figure: 4 - 14

DATE RELEASED FOR UNRESTRICTED USE:**11 / 3 / 98**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE
 EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: This CU is located along the east edge of the MSA work zone.

WALKOVER SURVEY INFORMATION

BACKGROUND: 6000 cpm
 (shielded)

FINAL SURVEY(S) BELOW
 1.5 X BACKGROUND ?

☒ YES☐ NO

DATE(S) SCANNED: 10/22/98

CONFIRMATION SAMPLING INFORMATION

TOTAL # OF

SAMPLE LOCATIONS :

32AVERAGES < ALARA? ☒ YES☐ NOHOTSPOTS? ☐ YES☒ NO

TOTAL # OF

UTILITY SAMPLES :

0ADDITIONAL EXCAVATION REQUIRED? ☐ YES☒ NO

GENERAL COMMENTS - All results are below ALARA.

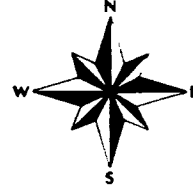
ORISE ACTION - None

ALARA COMMITTEE ACTION - None

CU SUMMARY DATA

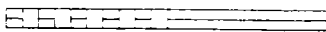
Ra-226	32	0.94 - 1.66	1.25	5	6.2	0	0
Ra-228	32	0.55 - 1.62	1.16	5	6.2	0	0
Total Radium	32	1.53 - 3.02	2.40	5	6.2	0	0
U-238	32	1.27 - 3.59	1.80	30	120	0	0
PCB	2	results < detection limit	N/A	0.65	8	0	0

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.

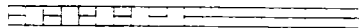


SC-17819-S
SC-17820-S
SC-17919-S
SC-18301-S
SC-17821-S
SC-17920-S
SC-18302-S
SC-17822-S
SC-18309-S
SC-18305-S
SC-18303-S
SC-18310-S
SC-18306-S
SC-18304-S
SC-18315-S
SC-18311-S
SC-18307-S
SC-18316-S
SC-18312-S
SC-18308-S
SC-18321-S
SC-18317-S
SC-18313-S
SC-18322-S
SC-18318-S
SC-18314-S
SC-18323-S
SC-18319-S
SC-18324-S
SC-18320-S
SC-18325-S
SC-18326-S

150 75 0 150 FEET



50 25 0 50 METERS



Sample Locations in Remedial Unit RU018
Confirmation Unit CU183

Figure: 4-14

REPORT NO.: DOE/OR/21548-874

EXHIBIT NO.

ORIGINATOR: MGL

DRAWN BY: LGB

DATE: 12/19/00

Table 4 - 15 Summary of CU184

CU **184** RU **18**

COC Ra-226 ☒ As ☐
 Ra-228 ☒ Cr ☐
 Th-230 ☐ Pb ☐
 Th-232 ☐ Tl ☐
 U-238 ☒ PAH ☐
 PCB ☐
 TNT ☐

Reference Figure: **4 - 15**

DATE RELEASED FOR UNRESTRICTED USE:**11 / 2 / 98**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE
 EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: *This CU is located along the east edge of the MSA work zone.*

WALKOVER SURVEY INFORMATION

BACKGROUND: 6,000 - 12,000 cpm
 (shielded) (not shielded)

FINAL SURVEY(S) BELOW
 1.5 X BACKGROUND ?

☒ YES☐ NO

DATE(S) SCANNED: 3/3/98 4/2/98 10/22/98

CONFIRMATION SAMPLING INFORMATION

TOTAL # OF
 SAMPLE LOCATIONS: 30

AVERAGES < ALARA? ☒ YES ☐ NO

HOTSPOTS? ☐ YES ☒ NO

TOTAL # OF
 UTILITY SAMPLES: 0

ADDITIONAL EXCAVATION REQUIRED? ☐ YES ☒ NO

GENERAL COMMENTS - *All results are below ALARA.*

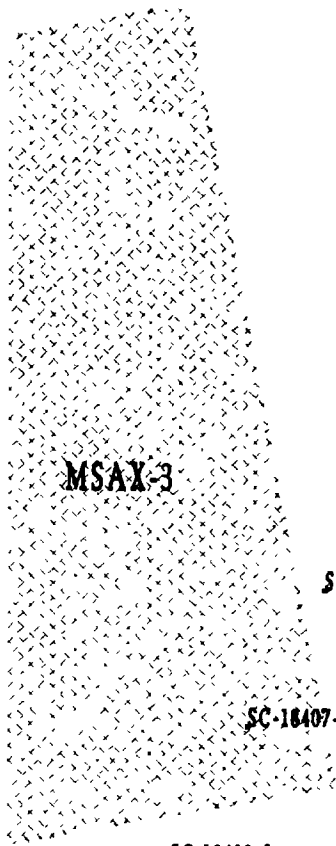
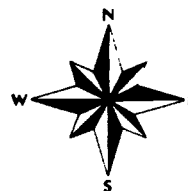
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

CU SUMMARY DATA

Ra-226	30	1.01 - 1.90	1.35	5	6.2	0	0
Ra-228	30	0.48 - 1.59	1.07	5	6.2	0	0
Total Radium	30	1.57 - 3.36	2.42	5	6.2	0	0
U-238	30	1.32 - 3.59	1.85	30	120	0	0

NOTE: Radiological contaminants are listed in pCi/g.



MSAX-3

SC-18321-S

SC-18322-S

SC-18401-S

SC-18323-S

SC-18402-S

SC-18324-S

SC-18407-S

SC-18403-S

SC-18325-S

SC-18408-S

SC-18404-S

SC-18326-S

SC-18413-S

SC-18409-S

SC-18405-S

SC-18414-S

SC-18410-S

SC-18406-S

SC-18419-S

SC-18415-S

SC-18411-S

SC-18420-S

SC-18416-S

SC-18412-S

SC-18421-S

SC-18417-S

SC-18422-S

SC-18418-S

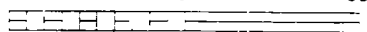
SC-18423-S

SC-18424-S

150 75 0 150 FEET



50 25 0 50 METERS



Sample Locations in Remedial Unit RU018 Confirmation Unit CU184

Figure: 4-15

REPORT NO.: DOE/OR/21548-874		EXHIBIT NO.	
ORIGINATOR: MGL	DRAWN BY: LGB	DATE: 12/19/00	

Table 4 - 16 Summary of CU185

CU	185	RU	18
COC	Ra-226	<input checked="" type="checkbox"/>	As
	Ra-228	<input checked="" type="checkbox"/>	Cr
	Th-230		Pb
	Th-232		Tl
	U-238	<input checked="" type="checkbox"/>	PAH
			PCB
			TNT

Reference Figure: **4 - 16**

DATE RELEASED FOR UNRESTRICTED USE:**2 / 2 / 99**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE
 EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: This CU is located along the south-west edge of the MSA work zone.

WALKOVER SURVEY INFORMATION

BACKGROUND: 4,800 - 14,564 cpm
 (shielded) (not shielded)

FINAL SURVEY(S) BELOW
 1.5 X BACKGROUND ?

☒ YES☐ NO

DATE(S) SCANNED: 3/3/98 3/30/98 10/26/98 1/28/99

CONFIRMATION SAMPLING INFORMATION

TOTAL # OF

SAMPLE LOCATIONS :

27AVERAGES < ALARA? ☒ YES☐ NOHOTSPOTS? ☐ YES☒ NO

TOTAL # OF

UTILITY SAMPLES .

0ADDITIONAL EXCAVATION REQUIRED? ☐ YES☒ NO

GENERAL COMMENTS - All results are below ALARA.

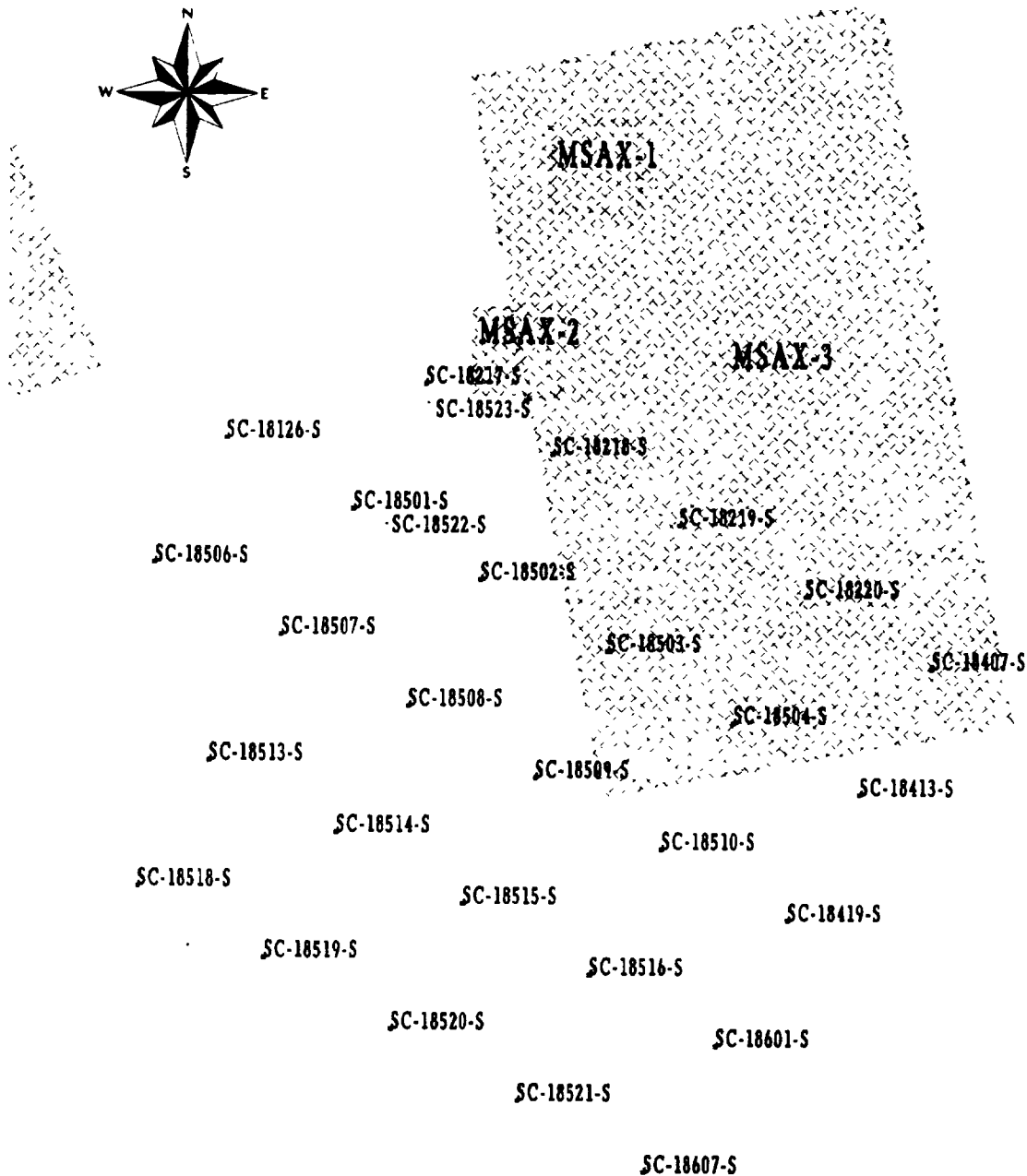
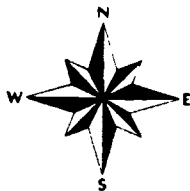
ORISE ACTION - None

ALARA COMMITTEE ACTION - None

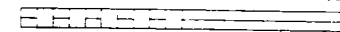
CU SUMMARY DATA

Ra-226	27	0.96 - 1.9	1.36	5	6.2	0	0
Ra-228	27	0.56 - 1.47	1.16	5	6.2	0	0
Total Radium	27	1.52 - 3.36	2.52	5	6.2	0	0
U-238	27	1.26 - 5.10	1.89	30	120	0	0
Lead	1	12.8	12.8	240	450	0	0
TNT	3	0.15	0.15	14	140	0	0

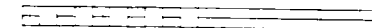
NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg. Nitro-aromatics are listed in ug/g.



150 75 0 150 FEET



60 25 0 60 METERS



Sample Locations in Remedial Unit RU018
Confirmation Unit CU185

Figure: 4-16

REPORT NO. DOE/OR/21548-874

EXHIBIT NO.

ORIGINATOR: MGL

DRAWN BY: LGB

DATE 1/16/01

Table 4 - 17 Summary of CU186

CU **186** RU **18**

COC Ra-226 ☒ As ☐
 Ra-228 ☒ Cr ☐
 Th-230 ☐ Pb ☐
 Th-232 ☐ Tl ☐
 U-238 ☒ PAH ☐
 PCB ☐
 TNT ☐

Reference Figure: **4 - 17**

DATE RELEASED FOR UNRESTRICTED USE:**4 / 6 / 98**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE
 EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: *This CU is located along the south-east edge of the MSA work zone.*

WALKOVER SURVEY INFORMATIONBACKGROUND: 10,000 cpm

FINAL SURVEY(S) BELOW
 1.5 X BACKGROUND ?

☒ YES☐ NODATE(S) SCANNED: 3/30/98**CONFIRMATION SAMPLING INFORMATION**

TOTAL # OF

SAMPLE LOCATIONS :

28AVERAGES < ALARA? ☒ YES☐ NOHOTSPOTS? ☐ YES☒ NO

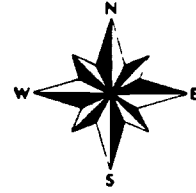
TOTAL # OF

UTILITY SAMPLES :

0ADDITIONAL EXCAVATION REQUIRED? ☐ YES☒ NOGENERAL COMMENTS - *All results are below ALARA.*ORISE ACTION - *None*ALARA COMMITTEE ACTION - *None***CU SUMMARY DATA**

Ra-226	28	0.79 - 1.90	1.30	5	6.2	0	0
Ra-228	28	0.56 - 1.47	1.19	5	6.2	0	0
Total Radium	28	1.46 - 3.36	2.49	5	6.2	0	0
U-238	28	1.27 - 2.75	1.83	30	120	0	0

NOTE: Radiological contaminants are listed in pCi/g.



SC-18419-S

SC-18420-S

SC-18601-S SC-18421-S

SC-18602-S SC-18422-S

SC-18607-S SC-18603-S SC-18423-S

SC-18608-S SC-18604-S SC-18424-S

SC-18613-S SC-18609-S SC-18605-S

SC-18614-S SC-18610-S SC-18606-S

SC-18615-S SC-18611-S

SC-18616-S SC-18612-S

SC-18617-S

SC-18618-S

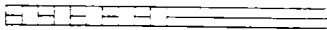
SC-18619-S

SC-18620-S

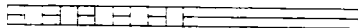
SC-18621-S

SC-18622-S

150 75 0 150 FEET



50 25 0 50 METERS



Sample Locations in Remedial Unit RU018
Confirmation Unit CU186

Figure: 4-17

REPORT NO: DOE/OR/21548-874

EXHIBIT NO:

ORIGINATOR: MGL

DRAWN BY: LGB

DATE: 12/19/00

Table 4 - 18 Summary of CU187

CU	187	RU	18
COC	Ra-226	<input checked="" type="checkbox"/>	As
	Ra-228	<input checked="" type="checkbox"/>	Cr
	Th-230	<input type="checkbox"/>	Pb
	Th-232	<input type="checkbox"/>	Tl
	U-238	<input checked="" type="checkbox"/>	PAH
			PCB
			TNT

Reference Figure: **4 - 18**

DATE RELEASED FOR UNRESTRICTED USE:**3 / 19 / 98**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE
 EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: *This CU is located at the southern tip of the MSA work zone.*

WALKOVER SURVEY INFORMATIONBACKGROUND: 10,000 cpmFINAL SURVEY(S) BELOW
1.5 X BACKGROUND ?☒ YES☐ NODATE(S) SCANNED: 3/14/98**CONFIRMATION SAMPLING INFORMATION**

TOTAL # OF

SAMPLE LOCATIONS :

28AVERAGES < ALARA? ☒ YES☐ NOHOTSPOTS? ☐ YES☒ NO

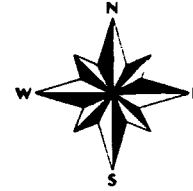
TOTAL # OF

UTILITY SAMPLES :

0ADDITIONAL EXCAVATION REQUIRED? ☐ YES☒ NOGENERAL COMMENTS - *All results are below ALARA.*ORISE ACTION - *None*ALARA COMMITTEE ACTION - *None***CU SUMMARY DATA**

Ra-226	28	0.96 - 1.60	1.28	5	6.2	0	0
Ra-228	28	0.59 - 1.40	1.19	5	6.2	0	0
Total Radium	28	1.77 - 3.00	2.48	5	6.2	0	0
U-238	28	1.32 - 4.05	2.14	30	120	0	0

NOTE: Radiological contaminants are listed in pCi/g.



SC-18817-S

SC-18818-S

SC-18701-S SC-18819-S

SC-18707-C

SC-18702-S SC-18820-S

SC-18708-S SC-18703-S SC-18821-S

SC-18709-S SC-18704-S SC-18821-S

SC-18710-S SC-18705-S SC-18821-S

SC-18716-S SC-18711-S SC-18706-C SC-18822-S

SC-18720-C SC-18712-C SC-18706-S

SC-18717-S SC-18712-S

SC-18721-S SC-18718-S

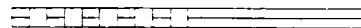
SC-18722-S

SC-18726-S

150 75 0 150 FEET



50 25 0 50 METERS



Sample Locations in Remedial Unit RU018
Confirmation Unit CU187

Figure: 4-18

REPORT NO.: DOE/OR/21548-874

EXHIBIT NO.

ORIGINATOR: MGL

DRAWN BY: LGB

DATE 12/19/00

Table 4 - 19 Summary of CU188

CU	188	RU	18
COC	Ra-226	<input checked="" type="checkbox"/>	As
	Ra-228	<input checked="" type="checkbox"/>	Cr
	Th-230	<input type="checkbox"/>	Pb
	Th-232	<input type="checkbox"/>	Tl
	U-238	<input checked="" type="checkbox"/>	PAH
			PCB
			TNT

Reference Figure: **4 - 19**

DATE RELEASED FOR UNRESTRICTED USE:**4 / 3 / 98**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE
 EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: *This CU is located at the south-west portion of the MSA work zone.*

WALKOVER SURVEY INFORMATIONBACKGROUND: 10,000 - 12,000 cpmFINAL SURVEY(S) BELOW
1.5 X BACKGROUND ?☒ YES☐ NODATE(S) SCANNED: 3/16/98 3/30/98**CONFIRMATION SAMPLING INFORMATION**

TOTAL # OF

SAMPLE LOCATIONS :

29AVERAGES < ALARA? ☒ YES☐ NOHOTSPOTS? ☐ YES☒ NO

TOTAL # OF

UTILITY SAMPLES :

0ADDITIONAL EXCAVATION REQUIRED? ☐ YES☒ NOGENERAL COMMENTS - *All results are below ALARA.*ORISE ACTION - *None*ALARA COMMITTEE ACTION - *None***CU SUMMARY DATA**

Ra-226	29	0.73 - 1.69	1.16	5	6.2	0	0
Ra-228	29	0.66 - 1.47	1.23	5	6.2	0	0
Total Radium	29	1.76 - 3.16	2.34	5	6.2	0	0
U-238	29	1.21 - 5.14	2.12	30	120	0	0

NOTE: Radiological contaminants are listed in pCi/g.

SC-18518-S

SC-18519-S

SC-18520-S

SC-18803-S

SC-18521-S

SC-18804-S

SC-18607-S

SC-18807-S

SC-18805-S

SC-18808-S

SC-18613-S

SC-18809-S

SC-18614-S

SC-18816-S

SC-18810-S

SC-18615-S

SC-18817-S

SC-18811-S

SC-18616-S

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SC-18812-S

SC-18617-S

SC-18701-S

SC-18819-S

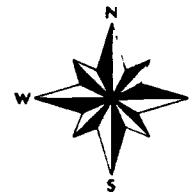
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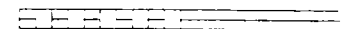
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SC-18821-S

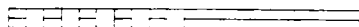
SC-18621-S



150 75 0 150 FEET



50 25 0 50 METERS



Sample Locations in Remedial Unit RU018
Confirmation Unit CU188

Figure: 4-19

REPORT NO.: DOE/OR/21548-874

EXHIBIT NO.:

ORIGINATOR MGL

DRAWN BY: LGB

DATE 12/19/00

Table 4 - 20 Summary of CU396

CU **396** RU **18**

COC Ra-226 ☒ As ☐
 Ra-228 ☒ Cr ☐
 Th-230 ☒ Pb ☐
 Th-232 ☒ Tl ☐
 U-238 ☒ PAH ☐
 PCB ☐
 TNT ☐

Reference Figure: **4 - 20**

DATE RELEASED FOR UNRESTRICTED USE:**3 / 20 / 00**

CLEANUP STANDARD ☒ SURFACE ☐ SUBSURFACE
 EACH 100m² < CRITERIA? ☒ YES ☐ NO

LOCATION DESCRIPTION: *This CU encompasses the temporary haul ramp leading into the northwest corner of the disposal cell, and the trench that ran along side of it.*

WALKOVER SURVEY INFORMATIONBACKGROUND: approx. 4500 - 6400 cpm

FINAL SURVEY(S) BELOW
 1.5 X BACKGROUND ?

☒ YES☐ NODATE(S) SCANNED: 3/9/00**CONFIRMATION SAMPLING INFORMATION**

TOTAL # OF

SAMPLE LOCATIONS :

12AVERAGES < ALARA? ☒ YES☐ NOHOTSPOTS? ☒ YES☐ NO

TOTAL # OF

UTILITY SAMPLES :

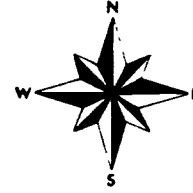
12ADDITIONAL EXCAVATION REQUIRED? ☒ YES☐ NO

GENERAL COMMENTS - *One hotspot was identified at SC-39609-U (Th-230). The area was excavated and resampled. Results are less than criteria. One Th-230 result > ALARA, but < criteria.*

ORISE ACTION - *None*ALARA COMMITTEE ACTION - *None***CU SUMMARY DATA**

Ra-226	12	0.53 - 0.92	0.73	5	6.2	0	0
Ra-228	12	0.95 - 1.63	1.14	5	6.2	0	0
Total Radium	12	1.57 - 2.44	1.87	5	6.2	0	0
Th-230	12	0.99 - 5.97	1.75	5	6.2	1	0
Th-232	12	0.97 - 1.67	1.17	5	6.2	0	0
U-238	12	0.86 - 4.05	1.32	30	120	0	0

NOTE: Radiological contaminants are listed in pCi/g.



SC-39601-U

SC-39607-U

SC-39602-U

SC-39608-U

SC-39603-U

SC-39609-U
SC-39609-U-RS

SC-39604-U

SC-39610-U

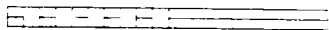
SC-39605-U

SC-39611-U

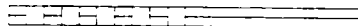
SC-39606-U

SC-39612-U

150 75 0 150 FEET



50 25 0 50 METERS



Sample Locations in Remedial Unit RU018
Confirmation Unit CU396

Figure: 4-20

REPORT NO.	DOE/OR/21548-874	EXHIBIT NO.	
ORIGINATOR	MGL	DRAWN BY:	LGB
		DATE	12/19/00

5. DATA EVALUATION

WP-437 final analytical data were evaluated to determine whether data quality objectives (DQOs) developed for the Weldon Spring Site Remedial Action Project (WSSRAP) were met and to ensure that acceptable overall data quality results were generated from these remedial activities. The data were evaluated in accordance with the *Project Management Contractor Quality Assurance Program* (Ref. 4) and the *Environmental Quality Assurance Project Plan* (Ref. 5). The data evaluation process was completed by data verification, data review, data validation, and data management activities as stated in the *Chemical Plant Area Cleanup Area Attainment Confirmation Plan* (Ref. 3).

5.1 Data Verification

Data verification was conducted in accordance with ES&H 4.9.1, *Environmental Monitoring Data Verification*, to ensure that documentation and data were reported in compliance with established reporting requirements and standard operating procedures (SOPs), and to ensure that all analyses were performed by the laboratories. All analytical results received from the laboratory were reviewed to verify that samples were properly handled according to WSSRAP protocol. The following factors were reviewed and evaluated: sample identification, chain of custody, holding times, sample preservation requirements, sample analysis request forms, data reviews, laboratory tracking, data reporting requirements, and the database transfer.

5.2 Data Review

Data packages were reviewed to ensure that final data were properly identified, analyzed, and reported, and that they met data quality requirements (DQRs). The data were also reviewed to check for inconsistencies with the field quality control (QC) samples. Final analytical results were also compared with the preliminary results to identify any changes in data.

During confirmation of WP-437 areas, which included RU018, soil samples were obtained in accordance with the details provided in the *Confirmation Sampling Plan Details for the Disposal Cell Facility* (WP-437) (Ref. 2). This plan specifies that quality control samples were to be taken at a frequency of 1 per 20 samples or 5%. The samples included duplicates, field replicates, secondary duplicates, matrix spikes/matrix spike duplicates, and equipment blanks. Since the 5% requirement was based on all WP-437 confirmation sampling, the quality control data will be discussed in a separate report entitled *WP-437 Confirmation Quality Control Results Report*, which will be prepared later.

5.3 Data Validation

Data validation was performed on 10% of all analytical data generated from the confirmation sampling activities. Data validation was conducted in accordance with ES&H 4.9.2, *Environmental Monitoring Data Validation*. Note that the validation of 10% of the

data was based on all confirmation data collected for WP-437, and not 10% of each work zone. The percentage of confirmation data validated will be discussed in the *WP-437 Confirmation Quality Control Results Report*.

6. SUMMARY OF CLOSURE REPORT FINDINGS

The MSA work zone portion of WP-437 consisted of the 20 confirmation units within RU018. Summary information regarding the remedial activities is presented in Section 4 of this report.

6.1 Data Evaluation

After remediation was completed, preliminary results were used to complete disposition forms in accordance with ES&H 1.2.1, *Soil Remediation Disposition Process*. Based on the preliminary results, each CU was released when disposition forms were reviewed and signed by authorized project personnel.

6.2 Summary of WP-437 Confirmation Results

Table 6-1 provides a summary of the total number of samples collected and analyzed for each contaminant during remedial activities in RU018. The number of results and the minimum, maximum, and average concentrations are also provided for each contaminant. The table was generated using data sets compiled from all samples that represented soils left in place.

Table 6-1 Summary Totals for RU018

CONTAMINANT	NO. OF SAMPLES	CONCENTRATION RANGE	AVERAGE CONCENTRATION	SURFACE ALARA	SURFACE CRITERIA	RESULTS >ALARA
Ra-226 (pCi/g)	370	0.43 - 1.90	1.29	5.00	6.20	0
Ra-228 (pCi/g)	370	0.48 - 1.75	1.19	5.00	6.20	0
Total Radium (pCi/g)	370	0.98 - 3.36	2.48	5.00	6.20	0
Th-230 (pCi/g)	17	0.71 - 5.97	1.52	5.00	6.20	1
Th-232 (pCi/g)	12	0.97-1.67	1.17	5.00	6.20	0
U-238 (pCi/g)	415	0.86 - 22.30	1.86	30.00	120.00	0
PAH (mg/kg)	3	0.00 - 0.03	0.01	0.44	5.60	0
Pb (mg/kg)	4	11.00 - 13.40	12.55	240	450	0
PCB (mg/kg)	37	0.00 - 1.90	0.05	0.65	8.00	1
TNT (mg/kg)	8	0.11 - 0.76	0.21	14	140	0

Analytical results generated from the remedial activities indicated that the average concentrations for each COC were below the ALARA goal. For each of the 20 CUs, COC averages were also below ALARA. All 100 m² averages were less than criteria.

6.3 Summary of Chemical Plant Confirmation Results

To meet the requirements of the ROD, more than 50% of the results for each parameter had to be less than the ALARA goal. Table 6-2 summarizes the cumulative results to date.

Table 6-2 Summary Totals for Confirmation

CONTAMINANT	NO. OF SAMPLES	MINIMUM CONCENTRATION	MAXIMUM CONCENTRATION	AVERAGE CONCENTRATION	RESULTS > ALARA
Arsenic (mg/kg)	875	0.48	34.10	7.43	0
Chromium (mg/kg)	1,286	3.80	41.60	14.10	0
Pb (mg/kg)	1,009	2.40	817.00	16.99	2
Thallium (mg/kg)	253	0.12	5.20	1.35	0
TNT (mg/kg)	85	0.00	34.00	0.86	1
PAH (mg/kg)	661	0.00	6.65	0.19	76
PCB (mg/kg)	1,485	0.00	6.00	0.04	21
Ra-226 (pCi/g)	2,584	0.33	9.43	1.33	3
Ra-228 (pCi/g)	2,393	0.30	6.60	1.25	2
Th-230 (pCi/g)	1,651	0.09	23.10	1.58	30
Th-232 (pCi/g)	1,870	0.31	6.77	1.30	2
U-238 (pCi/g)	4,000	0.39	228.00	3.70	46
Toluene (mg/kg)	4	0.00	3.40	0.85	0

NOTE This table contains summary results from cumulative confirmation including WP-253, WP-399, WP-420, WP-458, WP-461, WP-471, WP-437 (RU017), and WP-437 (RU018).

6.4 Comparison of Standard Deviations

This section compares the estimated standard deviations calculated following U. S. Environmental Protection Agency (EPA) guidelines with deviations calculated using confirmation results. Since no existing remediation data were available to calculate the standard deviation (sigma), the *Chemical Plant Area Cleanup Area Attainment Confirmation Plan* (Ref. 3) estimated sigma using the range (assuming the average concentration remaining after remediation would not exceed cleanup criteria) divided by six. To determine whether the specified level of precision was obtained, a comparison was made between the estimated sigma and the calculated sigma using the RU018 results.

The comparison indicated that the specified level of precision (a false positive = 0.05 and a false negative = 0.20) was obtained. With the exception of Th-230, all of the calculation sigmas were less than the estimated sigmas, indicating that the minimum specified precision was met. Table 6-3 presents the estimated sigma and calculated sigmas for each COC.

Table 6-3 Comparison of Standard Deviations

COC	Estimated Sigma(a)	RU018 Sigma (b)	Cumulative Sigma (c)
Arsenic (mg/kg)	12.5	N/A	3.57
Chromium (mg/kg)	18.3	N/A	5.00
Lead (mg/kg)	75	1.06	30.46
Thallium (mg/kg)	3.3	N/A	1.31
PAH (mg/kg)	0.93	0.02	0.55
PCB (mg/kg)	1.33	0.31	0.30
TNT (mg/kg)	23.3	0.22	4.07
Ra-226 (pCi/g)	1.03	0.23	0.36
Ra-228 (pCi/g)	1.03	0.27	0.35
Th-230 (pCi/g)	1.03	1.25	1.36
Th-232 (pCi/g)	1.03	0.18	0.37
U-238 (pCi/g)	20	1.18	8.64

(a) Sigma estimated in the *Attainment Plan* (Ref. 3).

(b) Sigma calculated using only the WP-437 (RU018) confirmation results.

(c) Sigma calculated using cumulative confirmation results (WP-253, WP-399, WP-458, WP-461, WP-471, WP-437 [RU017], and WP-437 [RU018]).

The RU018 calculated sigma and the cumulative sigma for Th-230 exceeded the estimated sigma. For the RU018 calculated sigma, this is a factor of few data points and one location approaching criteria with the remainder near background. For the cumulative sigma, this is a factor of hot spots left in place based upon subsurface criteria in previous CUs. The estimated standard deviation, recalculated for Th-230 using subsurface criteria, is 2.7. The cumulative sigma is less than the estimated subsurface sigma.

7. REFERENCES

1. U.S. Department of Energy. *Record of Decision for Remedial Action at the Chemical Plant Area of the Weldon Spring Site*. Rev. 0. DOE/OR/21548-376. Oak Ridge Field Office. St. Charles, MO. September 1993.
2. MK-Ferguson Company and Jacobs Engineering Group. *Confirmation Sampling Plan Details for the Disposal Cell Facility (WP-437)*. Rev. 0. DOE/OR/21548-706. Prepared for the U.S. Department of Energy, Oak Ridge Operations Office. St. Charles, MO. January 1998.
3. MK-Ferguson Company and Jacobs Engineering Group. *Chemical Plant Area Cleanup Attainment Confirmation Plan*. Rev. 3. DOE/OR/21548-491. Prepared for the U.S. Department of Energy, Oak Ridge Operations Office. St. Charles, MO. December 1995.
4. MK-Ferguson Company and Jacobs Engineering Group. *Project Management Contractor Quality Assurance Program Implementation Plan*. Rev. 3. DOE/OR/21548-506. Prepared for the U.S. Department of Energy, Oak Ridge Operations Office. St. Charles, MO. November 2000.
5. MK-Ferguson Company and Jacobs Engineering Group. *Environmental Quality Assurance Project Plan*. Rev. 5. DOE/OR/21548-352. Prepared for the U.S. Department of Energy, Oak Ridge Operations Office. St. Charles, MO. November 2000.
6. MK-Ferguson Company and Jacobs Engineering Group. *Remedial Investigation for the Chemical Plant Area of the Weldon Spring Site*. Rev. 0. 2 Vols. DOE/OR/21548-074. Prepared for the U.S. Department of Energy, Oak Ridge Field Office, Weldon Spring Site Remedial Action Project. St. Charles, MO. November 1992.
7. MK-Ferguson Company. *MSA Work Zone Specifications*. Rev. 8. Specification Document No. 3840-7-437-02301. Prepared for the U.S. Department of Energy Weldon Spring Site Remedial Action Project. St. Charles, MO. August 1996.
8. Oak Ridge Institute for Science and Education. *Final Verification Survey Plan for the Chemical Plant Area Weldon Spring Site Remedial Action Project, Weldon Spring, Missouri*. Prepared by the Environmental Survey and Site Assessment Program, Energy/Environment Systems Division, for the U.S. Department of Energy. Weldon Spring, Missouri. December 7, 1995.

PROCEDURES

ES&H 1.2.1, *Soil Remediation Disposition Process*

ES&H 4.9.1, *Environmental Monitoring Data Verification*

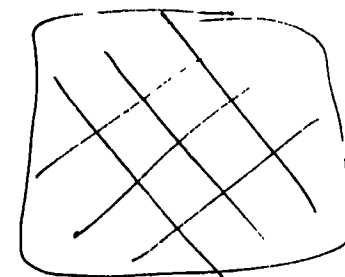
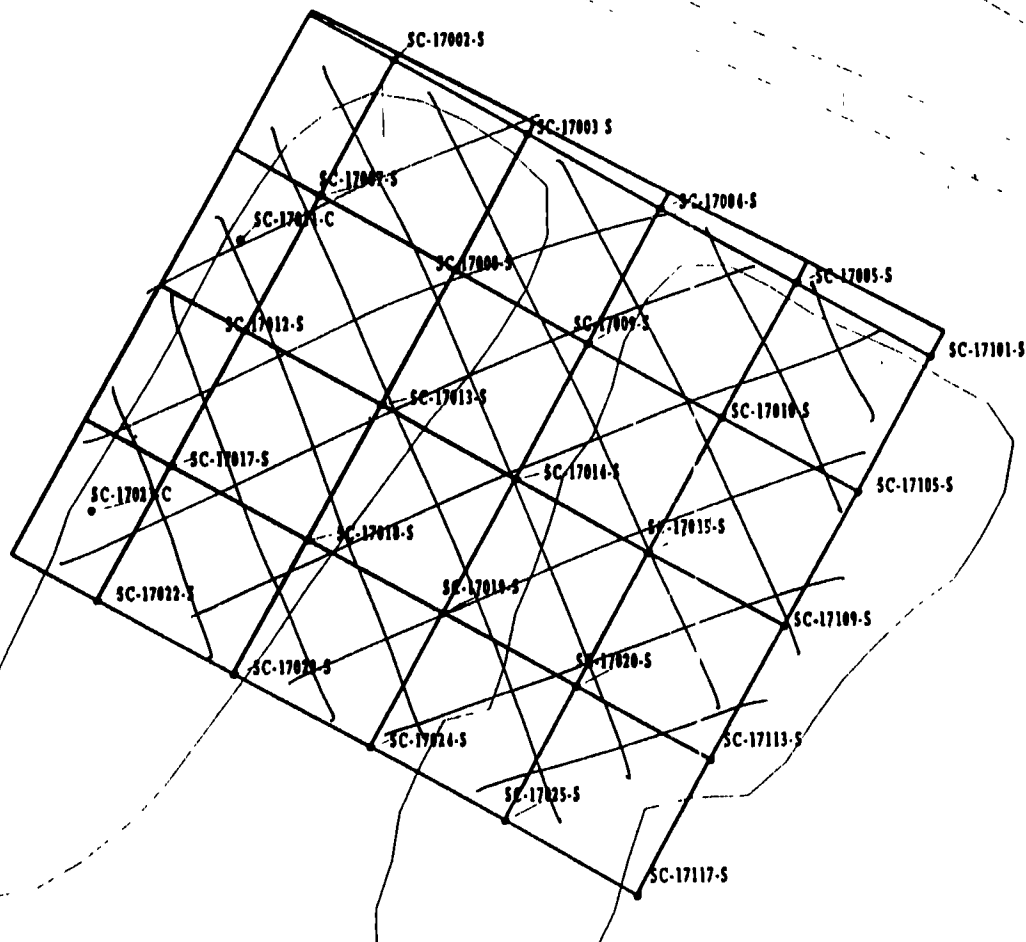
ES&H 4.9.2, *Environmental Monitoring Data Validation*

ACRONYMS

ALARA	as low as reasonably achievable
COC	contaminant of concern
CPM	counts per minute
CU	confirmation unit
DOE	Department of Energy
DQO	Data Quality Objectives
DQR	Data Quality Requirements
EQAPjP	Environmental Quality Assurance Project Plan
MSA	Materials Staging Area
NaI	sodium iodide
ORISE	Oak Ridge Institute for Science and Education
Pb	lead
PAH	polynuclear aromatic hydrocarbons
PCB	polychlorinated biphenyl
PMC	Project Management Contractor
QA	quality assurance
QC	quality control
ROD	Record of Decision for Remedial Action at the Chemical Plant Area of the Weldon Spring Site
RU	remedial unit
SOP	standard operating procedure
TNT	trinitrotoluene
WP	work package
WSSRAP	Weldon Spring Site Remedial Action Project

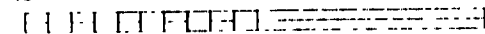
APPENDIX A
Final Walkover Forms

Radiation Survey Form WP 437, RU018CU170

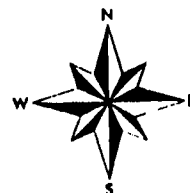


Area Surveyed

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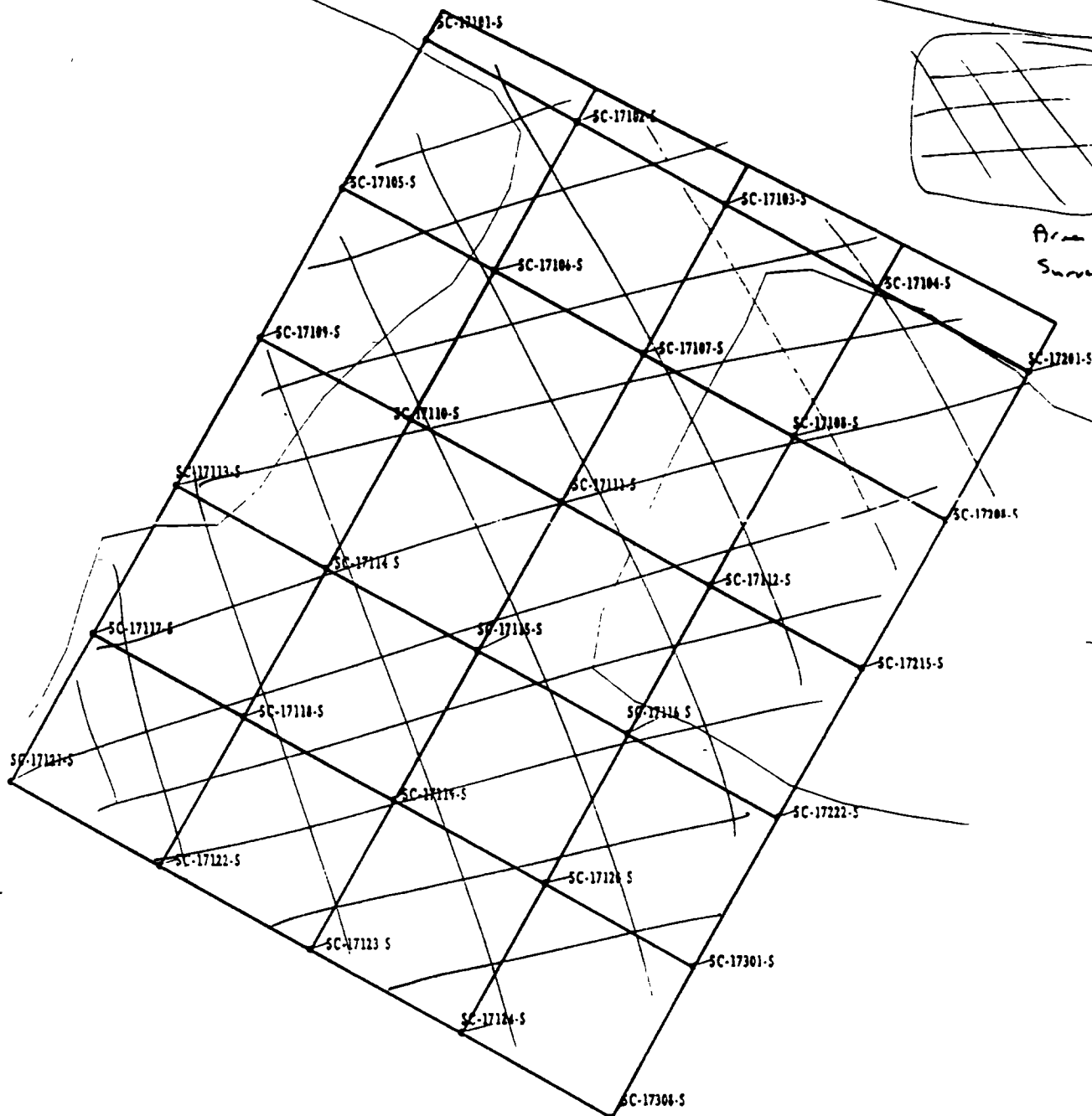


45 22.5 0 45 FEET



W88RAP GIS

Meter Model#: <u>2221 / 2221</u>	Detector Model#: <u>44-10 / 44-10 "K"</u>
Meter Serial#: <u>89636 / 117611</u>	Detector Serial#: <u>126403 / 126402</u>
Calibration Due: <u>11-20-98 / 1-8-99</u>	Calibration Due: <u>1-21-99 / 1-22-99</u>
Survey Date/Time: <u>9/29/98</u>	Field Bkg.: <u>11,000</u>
Surveyor(s): <u>C. Hanner & J. Jenkins</u>	
Comments: <u>Area was surveyed and found to be below 1.5 times background</u>	

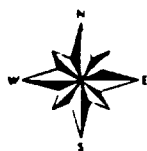
Area
Surveyed

15 7.5 0

METERS

45 22.5 0

FEET



WSSRAP 615

Meter Model: 2221 / 2221

Detector Model: Bx2 NaI "J" 2"

Meter Serial: 89636 / 117611

Detector Serial: 126403 / 126462

Calibration Due: 11-20-98 / 1-8-99

Calibration Due: 1-21-99 / 1-22-99

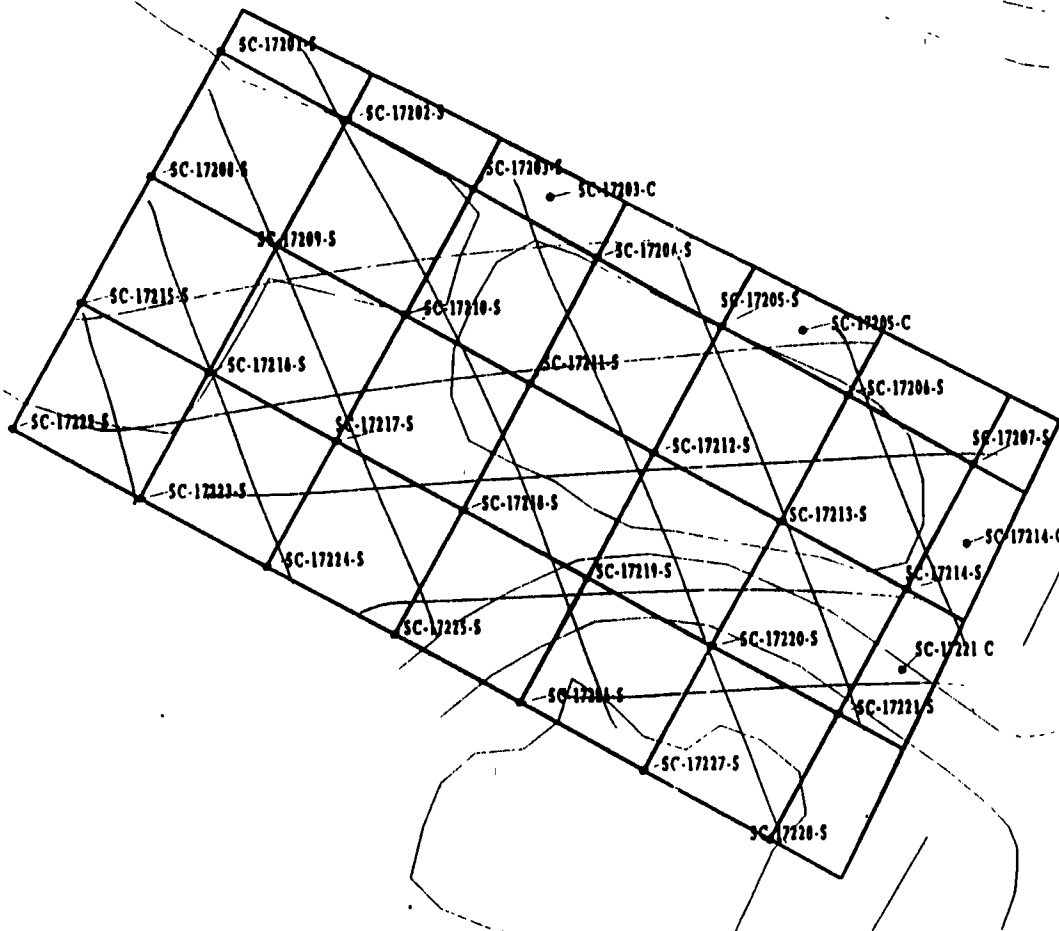
Survey Date/Time: 9/29/98

Field Bkg: 11,000

Surveyor(s): C. Hanner & J. Perkins

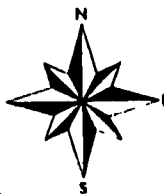
Comments: Area was surveyed and found to be below 1.5
times background

Radiation Survey Form WP 437, BU018CU172



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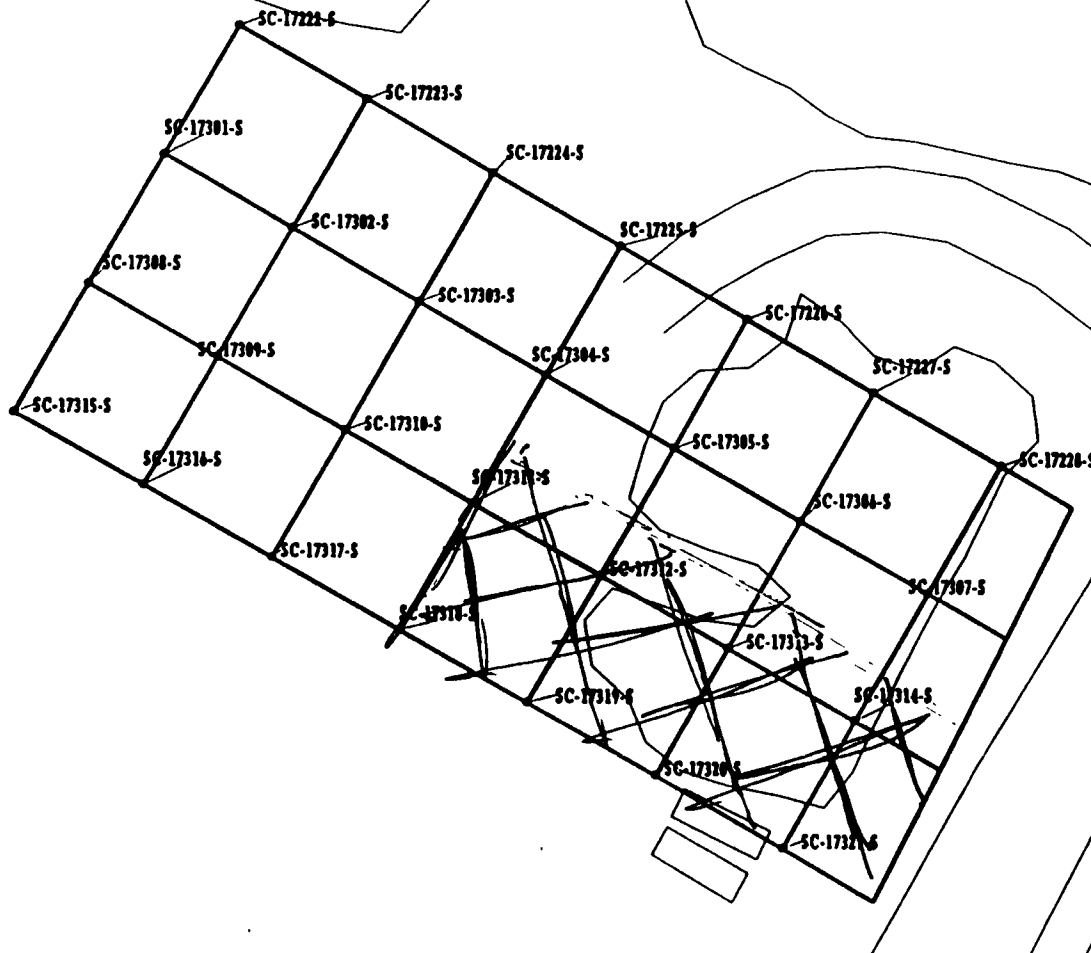
45 22.5 0 45 FEET



WSSRAP 618

Meter Model#: 2221 / 2221	Detector Model#: 2x2 NaI 3" x 3"
Meter Serial#: 89636 / 117611	Detector Serial#: 126403 / 126402
Calibration Due: 11-20-99 / 1-8-99	Calibration Due: 1-21-99 / 1-22-99
Survey Date/Time: 9/28/99	Field Bkg.: 11,000
Surveyor(s): C. Hanner & J. Rankins	
Comments: Area was surveyed and found to be below 15 Times background	

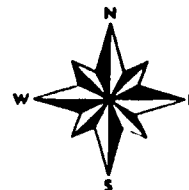
Radiation Survey Form WP 437, RU018CU173



Area Surveyed

15 7.5 0 15 METERS

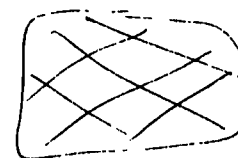
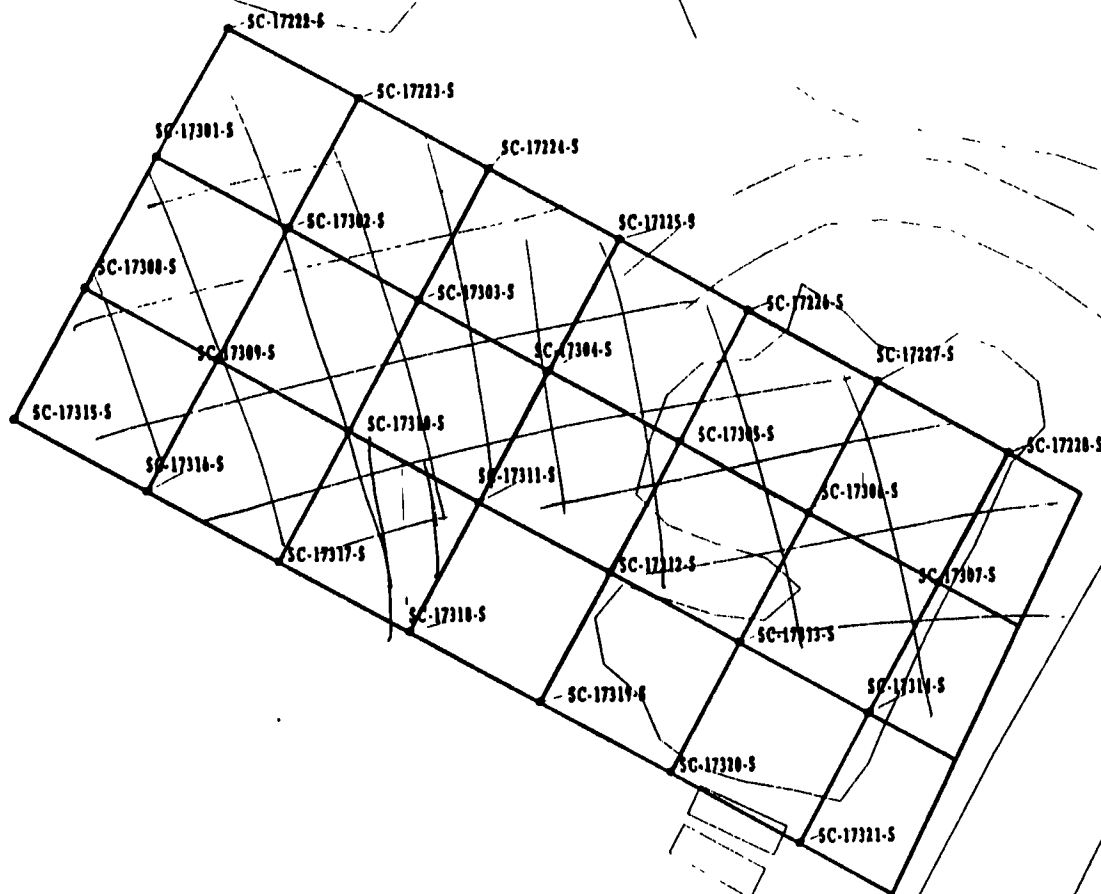
45 22.5 0 45 FEET



WSSRAP GIS

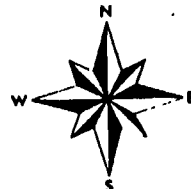
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Meter Serial#: 117611	Detector Serial#: 126402
Calibration Due: 1-8-99	Calibration Due: 1-22-99
Survey Date/Time: 10-16-98	Field Bkg.: 4200 (shielded)
Surveyor(s): C. Hanner	
Comments: Area was surveyed and found to be below 1.5 times background	

Radiation Survey Form WP 437, RU018CU173



15 7.5 0 15 METERS

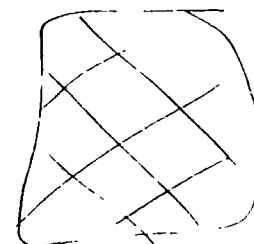
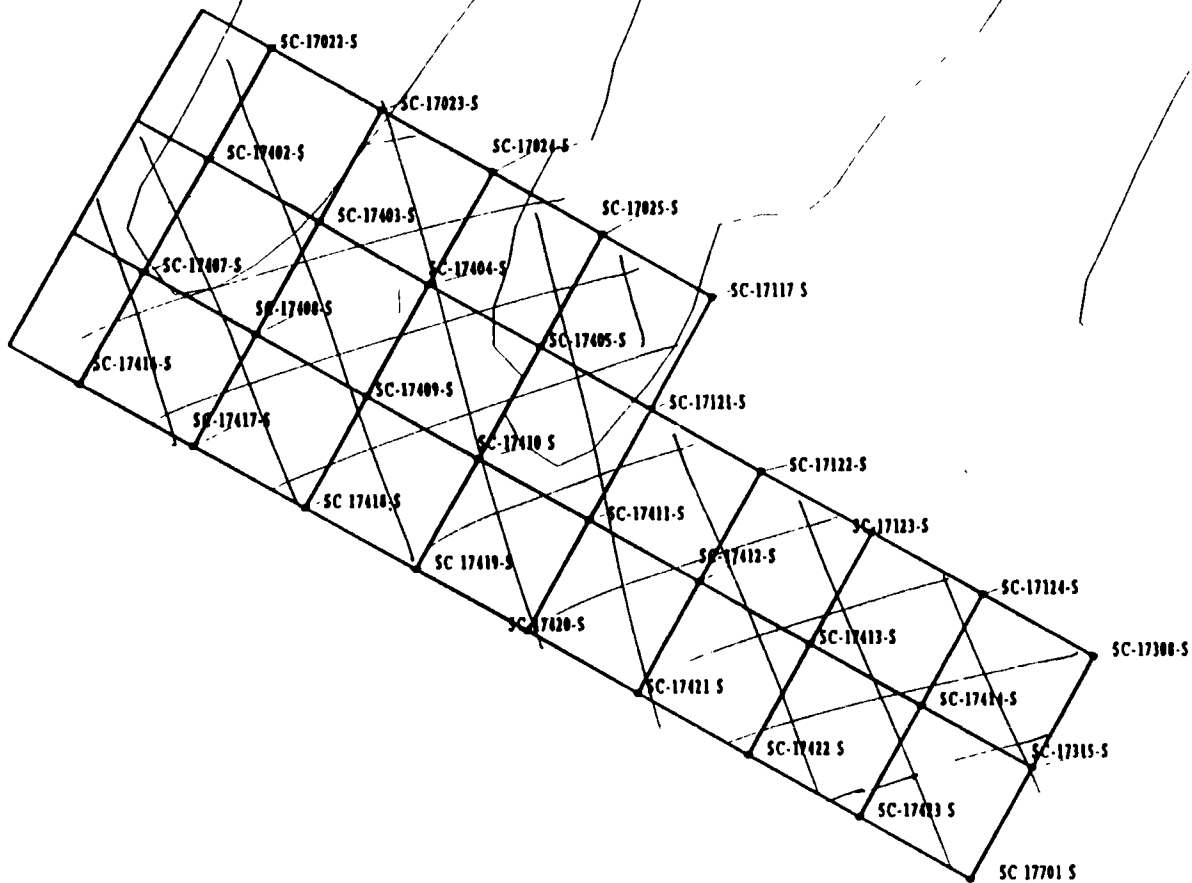
45 22.5 0 45 FEET



WSSRAP G18

Meter Model#: 2221 / 2221	Detector Model#: 2x2 NaI "J" & "K"
Meter Serial#: 89636 / 117611	Detector Serial#: 126403 / 126402
Calibration Due: 11-20-99 / 1-8-99	Calibration Due: 1-21-99 / 1-22-99
Survey Date/Time: 9/28/98	Field Bkg.: 11,000
Surveyor(s): C. Hanner & J. Rankins	
Comments: Area was surveyed and found to be b.s. times background	

Radiation Survey Form WP 437, RU018CU174



Area
Surveyed

WSRAP 618

Meter Model# 2221 / 2221 Detector Model# 2x2 Nxt "J" & "K"

Motor Serials. 89636 / 117611 Detector Serials. 126403 / 126402

Calibration Due: 11-20-99 / 1-8-99 Calibration Due: 1-21-99 / 1-22-99

Survey Date/Time: 9/28/98 Field Bkg: 11,000

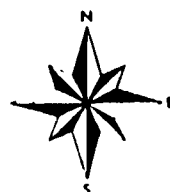
Surveyor(s) E. Hammer & J. Penning

Comments Area was surveyed and found to be 1.5 times background

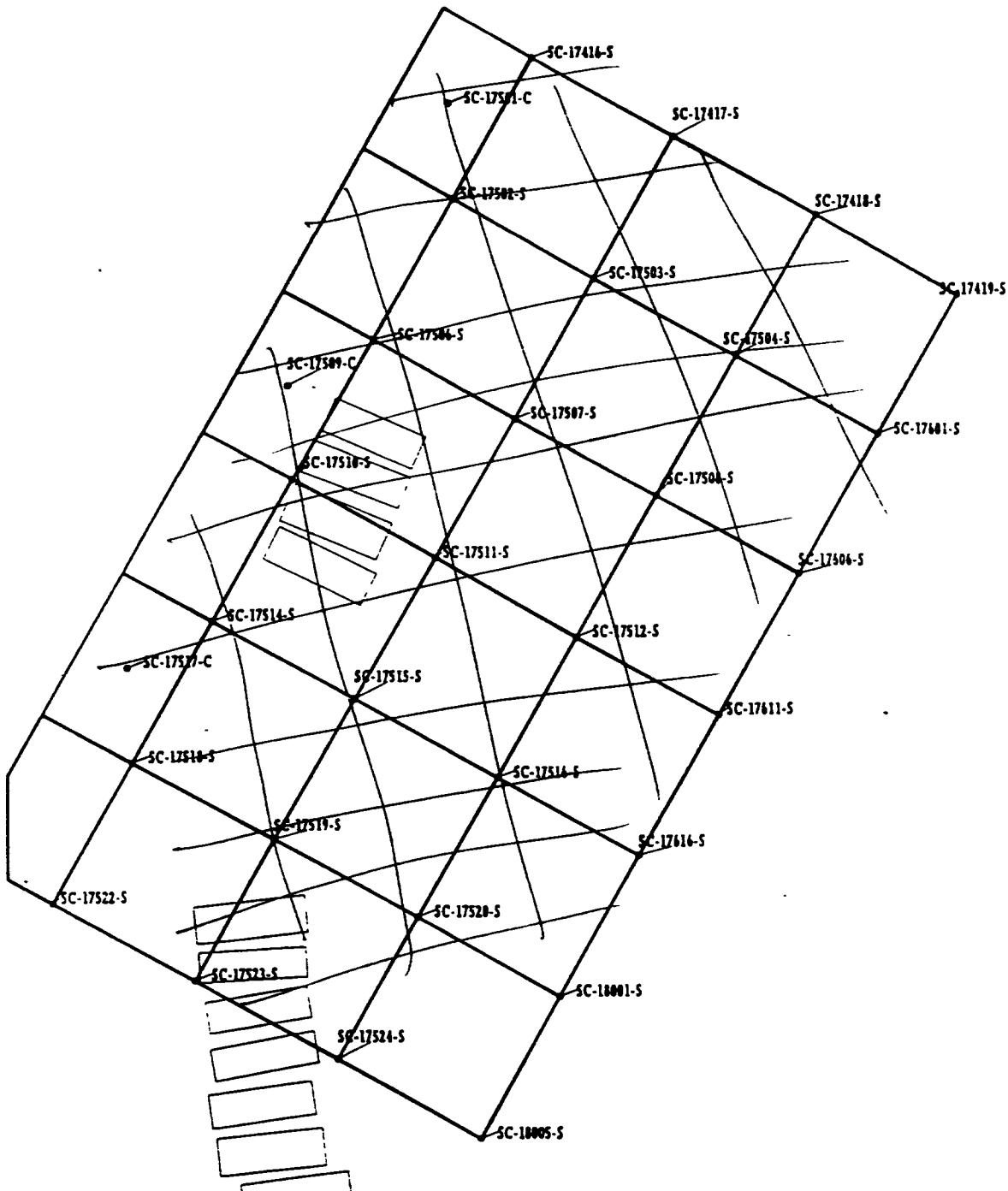
15 75 0 15 METERS

46 225 0 46 1111

| | | | | | | | | | |



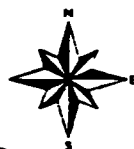
Radiation Survey Form WP 437, RU018 CU175



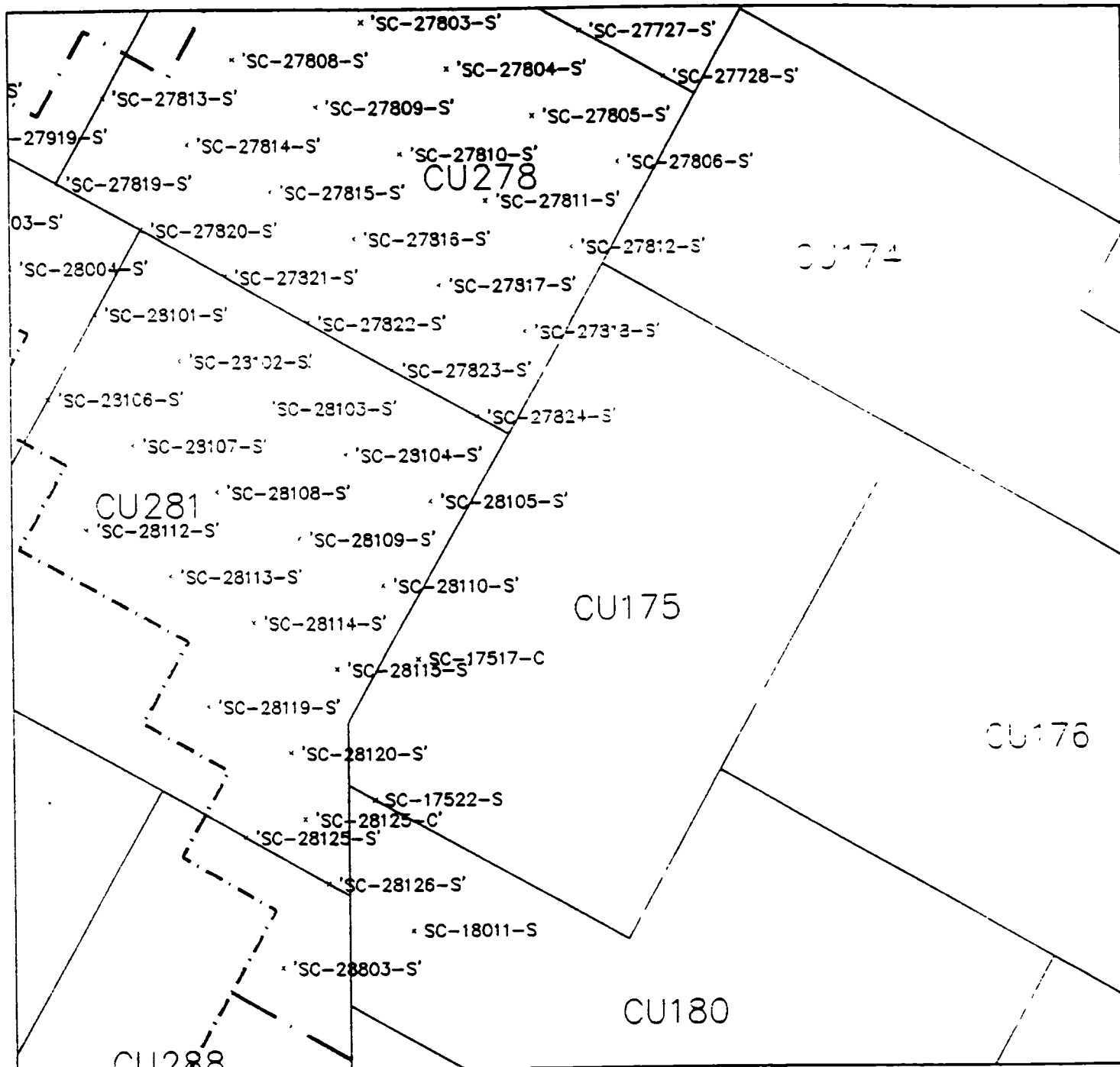
WSSRAP GIS

15 7.5 0 METERS

45 22.5 0 FEET



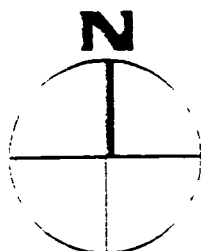
Meter Model#: <u>2221 / 2221</u>	Detector Model#: <u>4329 / 4330</u>
Meter Serial#: <u>127247 / 89636</u>	Detector Serial#: <u>126409 / 126402</u>
Calibration Due: <u>11/20/98 11/20/98</u>	Calibration Due: <u>1-22-99 1-22-99</u>
Survey Date/Time: <u>9/30/98</u>	Field Bkg.: <u>11,000</u>
Surveyor(s): <u>C. Hanner & L. Hogoss</u>	
Comments: <u>Area was surveyed and found to be below 1.5 times background</u>	



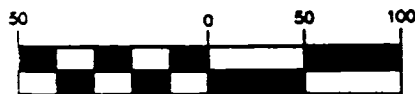
LEGEND

'SC-32506-S'

SAMPLE POINTS PINNED
PINNING LIMITS



GRAPHIC SCALE



(IN FEET)

1 inch = 50 ft.

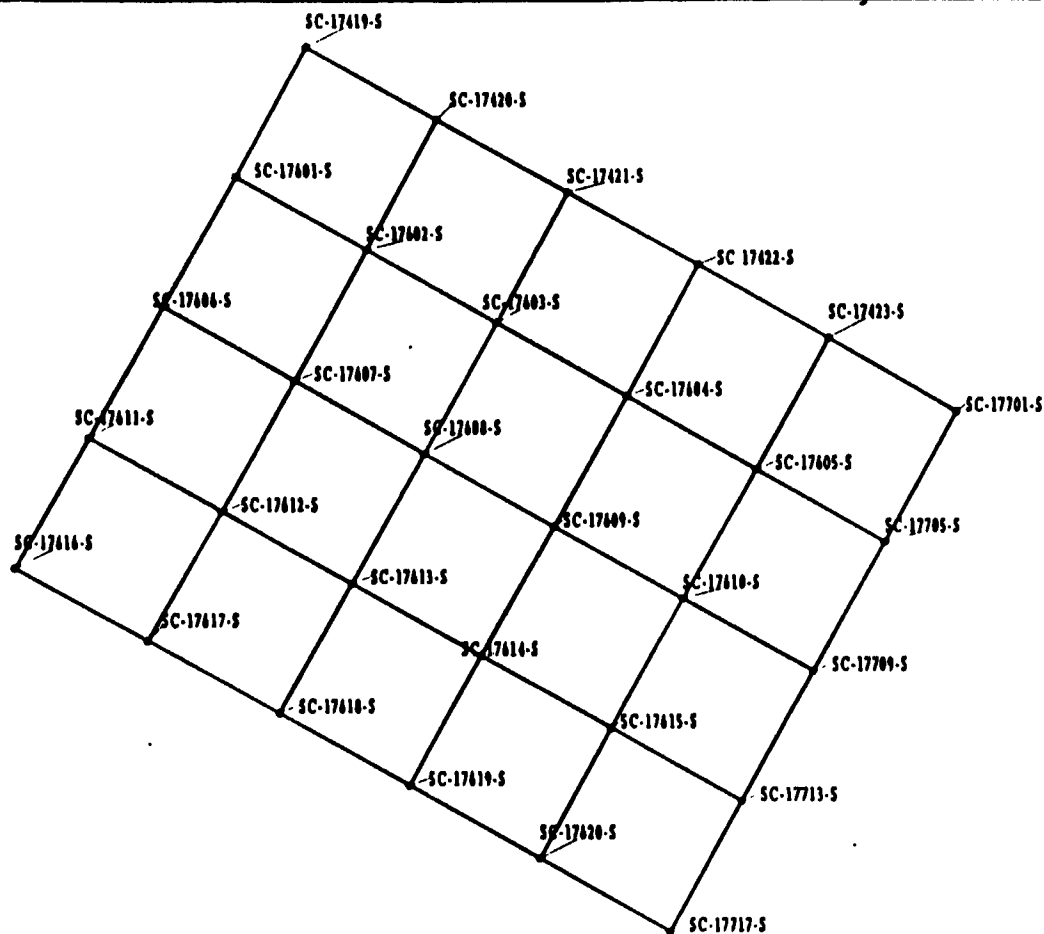
Radiation Survey Form WP 437, RU 18 CU 175

Date Plotted 6/23/00

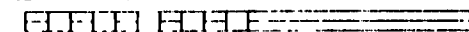
DEO C.A.D

Meter Model #	<u>2221</u>	Detector Model #	<u>2x2 P</u>
Meter Serial #	<u>154199</u>	Detector Serial #	<u>17606</u>
Calibration Due	<u>2/9/01</u>	Calibration Due	<u>11/21/01</u>
Survey Date / Time	<u>6/22/00 - 6:00</u>	Field Skp.	<u>10,000 CPM</u>
Surveyor(s)	<u>T. Brower</u>		
Comments	<u>All readings < 1.5 Bkg</u>		

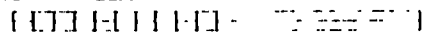
Radiation Survey Form WP 437, RU018CU176



15 7.5 0 15 METERS



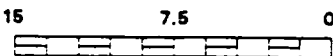
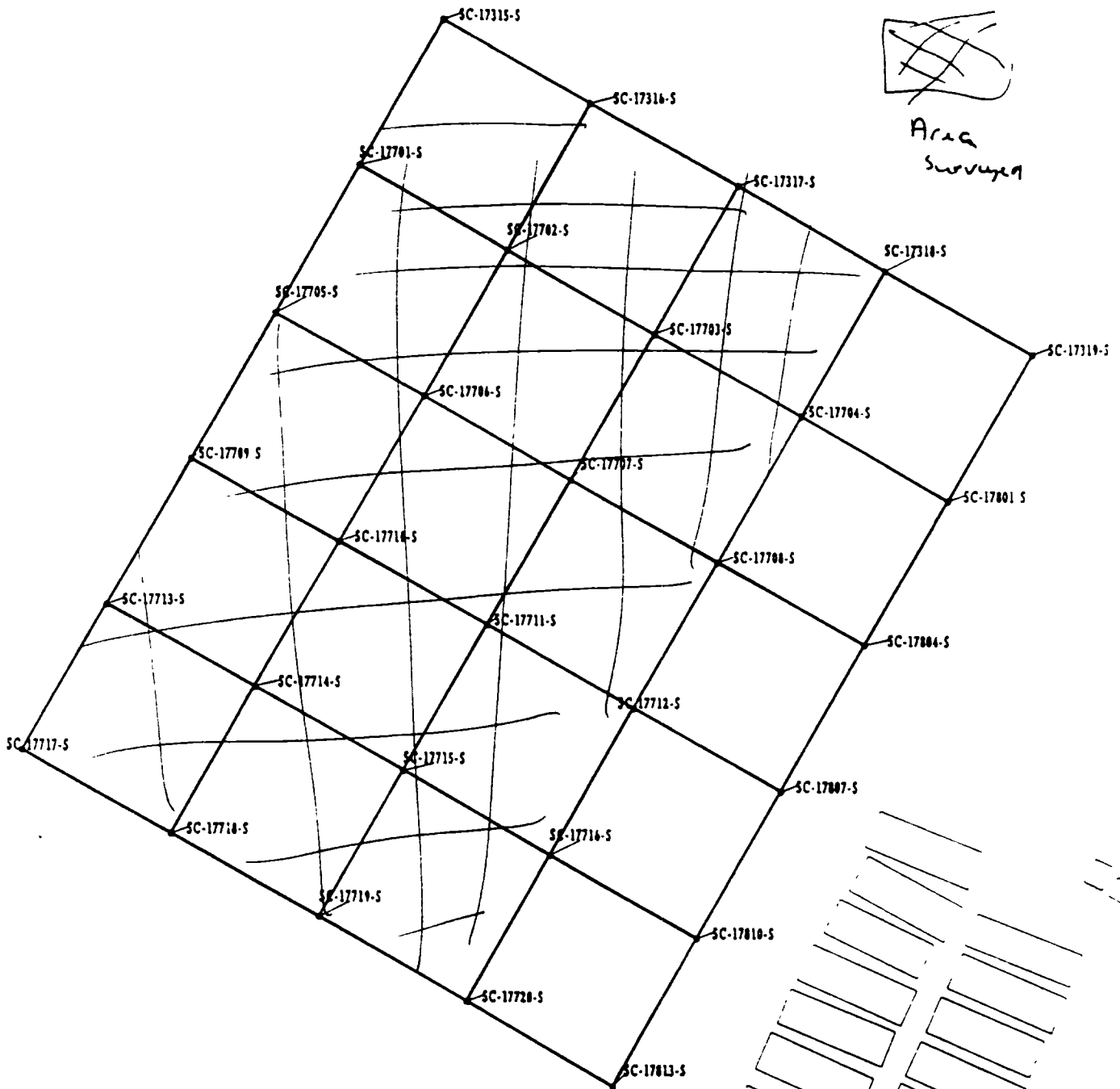
45 22.5 0 45 FEET



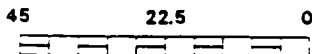
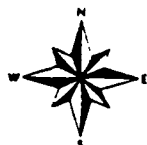
W88RAP GIS

Meter Model#: 2221/2221 Detector Model#: 4329/4330
 Meter Serial#: 127247/99636 Detector Serial#: 126405/126402
 Calibration Due: 11/20/99/11/20/99 Calibration Due: 1-22-99/1-21-99
 Survey Date/Time: 9/30/99 Field Bkg.: 11,000
 Surveyor(s): C. Hanner & L. Hagoss
 Comments: Area was surveyed and found to be below 1.5 times background

Radiation Survey Form WP 437, RU018 CU177



METERS

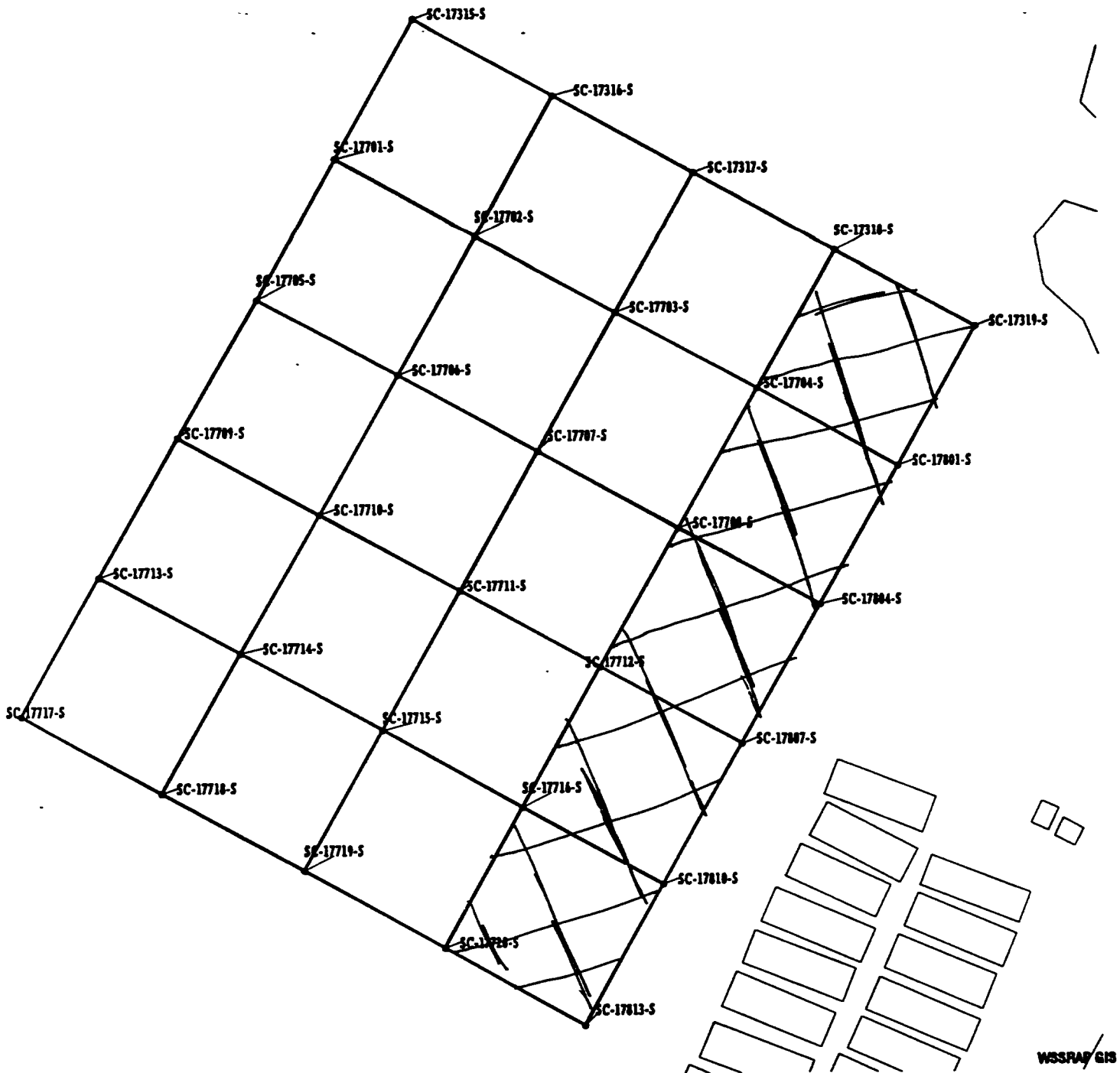


FEET

WSSRAP GIS

Meter Model#: <u>2221 / 2221</u>	Detector Model#: <u>4329 / 4330</u>
Meter Serial#: <u>127247 / 89636</u>	Detector Serial#: <u>126402 / 126403</u>
Calibration Due: <u>11/20/98 11/20/99</u>	Calibration Due: <u>1-22-99 1-22-99</u>
Survey Date/Time: <u>9/30/98</u>	Field Bkg: <u>11,000</u>
Surveyor(s): <u>C. Hammer & L. Hagoss</u>	
Comments: <u>Area was surveyed and found to be below 1.5 times background</u>	

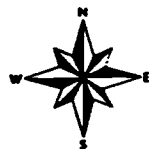
Radiation Survey Form WP 437, RU018 CU177



WSSRA/GIS

15 7.5 0

METERS

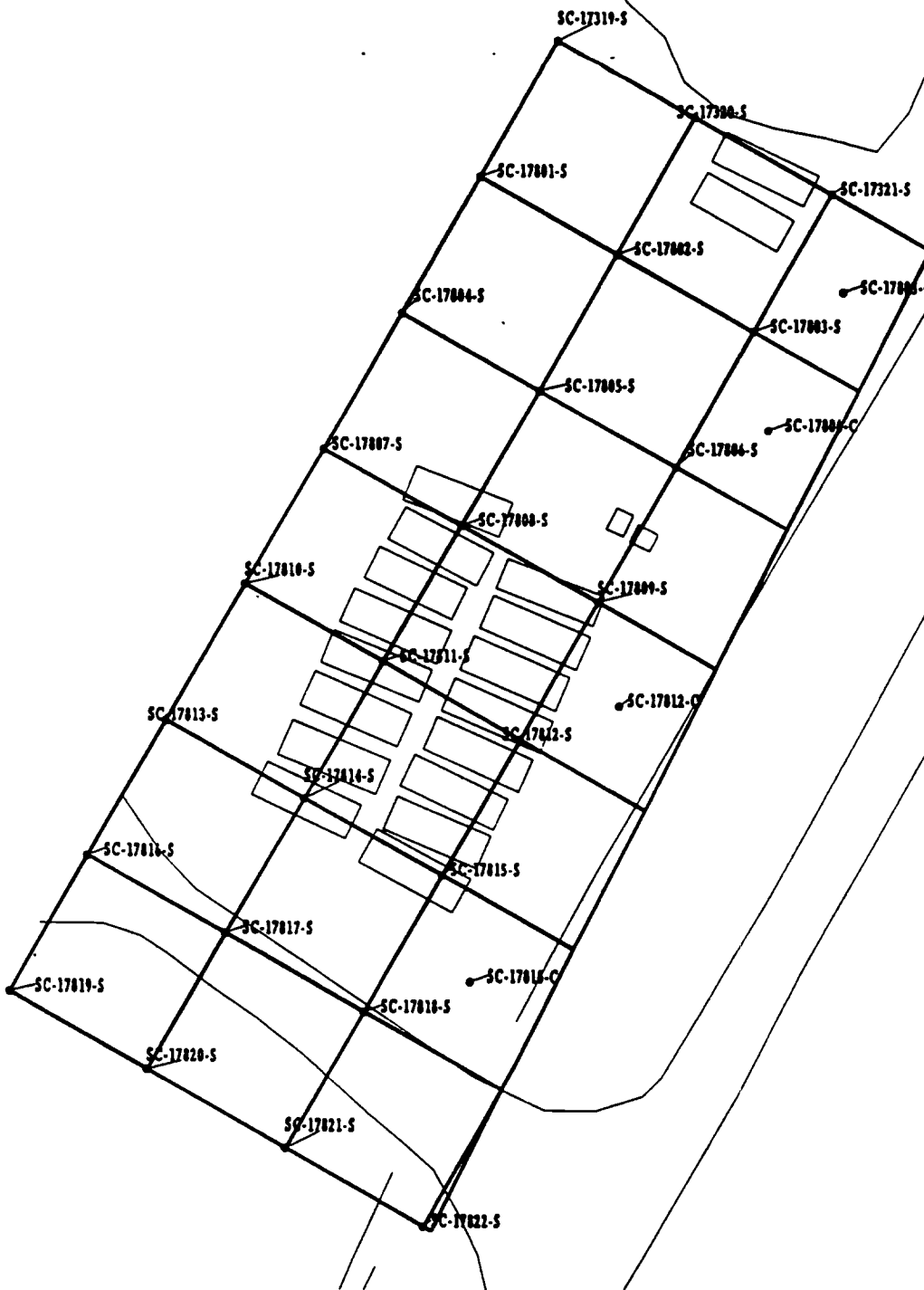


45 22.5 0

FEET

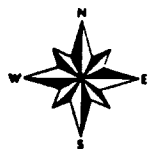
Meter Model#: <u>2221</u>	Detector Model#: <u>2x2 NaI "J"</u>
Meter Serial#: <u>117611</u>	Detector Serial#: <u>126402</u>
Calibration Due: <u>1-8-99</u>	Calibration Due: <u>1-22-99</u>
Survey Date/Time: <u>10-16-98</u>	Field Bkg.: <u>4200 (shielded)</u>
Surveyor(s): <u>C. Hanner</u>	
Comments: <u>Area was surveyed and found to be below 65 times background</u>	

Radiation Survey Form WP 437, RU018 CU178



WSSRAP GIS

15 7.5 0 METERS



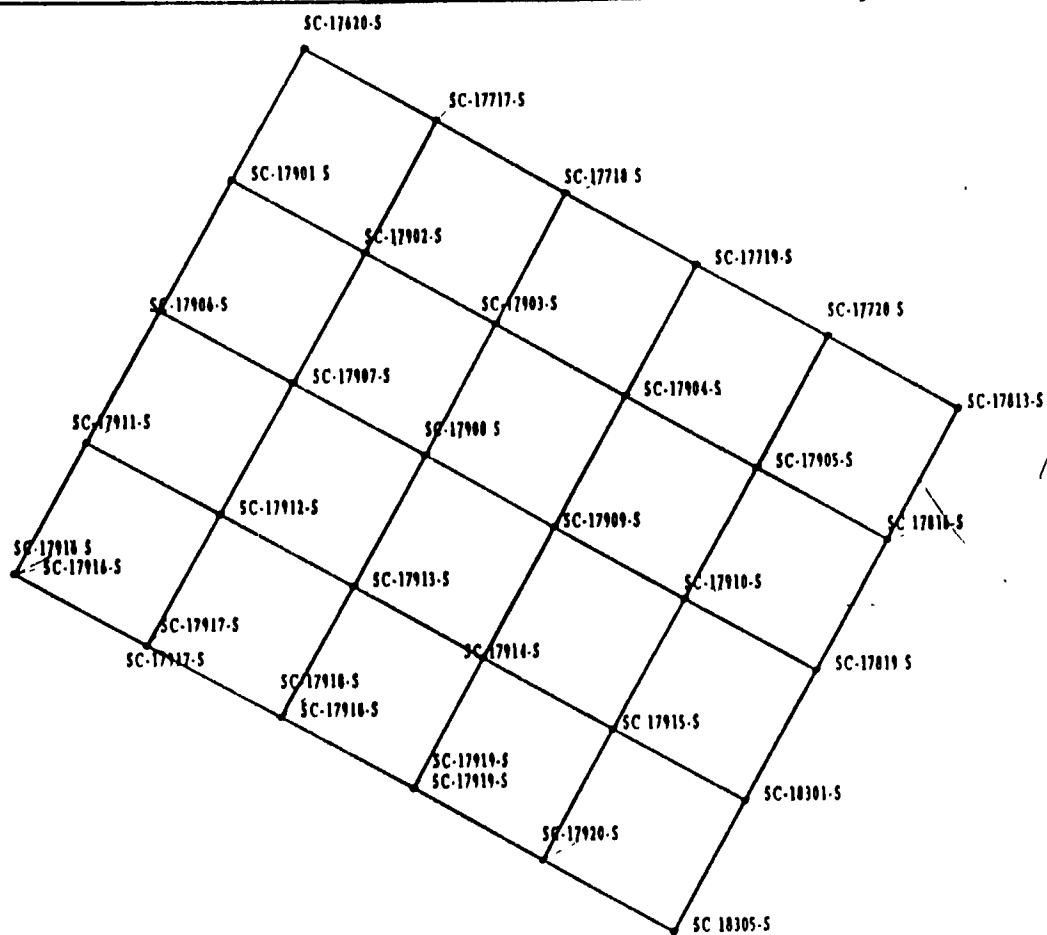
45 22.5 0 FEET



Meter Model#: 2221	Detector Model#: 2x2 NaI 5"
Meter Serial#: 117611	Detector Serial#: 126402
Calibration Due: 1-8-99	Calibration Due: 1-22-99
Survey Date/Time: 10-16-98	Field Bkg.: 4200 (shielded)
Surveyor(s): C. Hammer	
Comments: Area was surveyed and found to be below 1.5 times background	

10/23/98
(/m)

Radiation Survey Form WP 437, RU018CU179



15 7.5 0
| | | | | | | |

15 METERS
|

45 22.5 0
| | | | | | | |

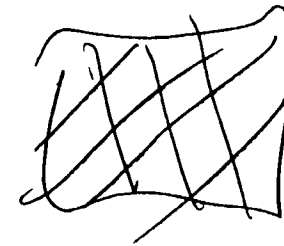
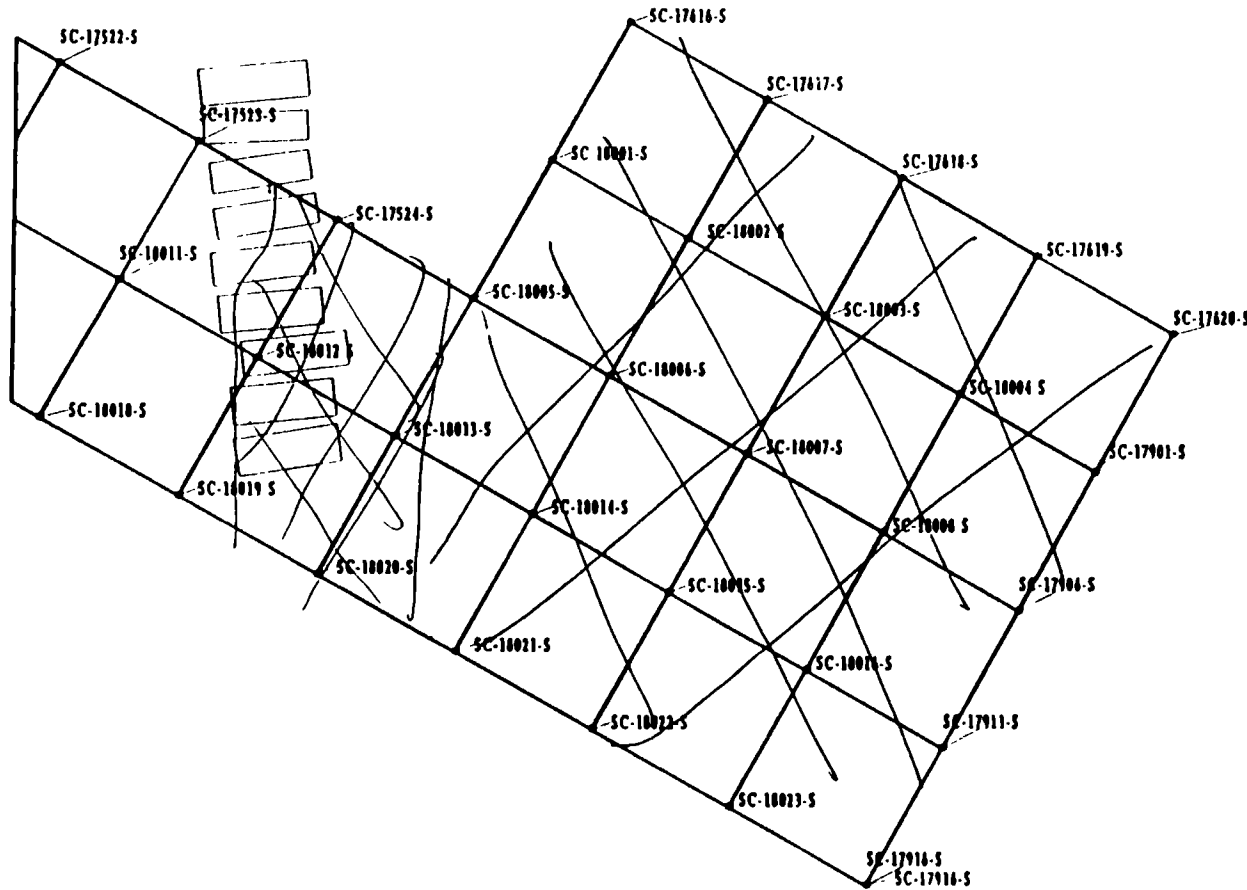
45 FEET
|



WSSRAP 618

Meter Model#: 2221 / 2221 Detector Model#: 2x2 NaI "K" & "J"
 Meter Serial#: 89636 / 117611 Detector Serial#: 126403 / 126402
 Calibration Due: 11-20-98 / 1-8-99 Calibration Due: 1-21-99 / 1-22-99
 Survey Date/Time: 10-23-98 Field Bkg.: 6000 (shielded)
 Surveyor(s): C. Hanner & J. Rankins
 Comments: Area surveyed and found to be below 1.5 times background

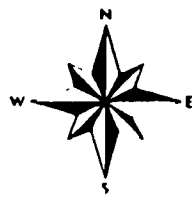
Radiation Survey Form WP 437, RU018CU180



Surveyed Area

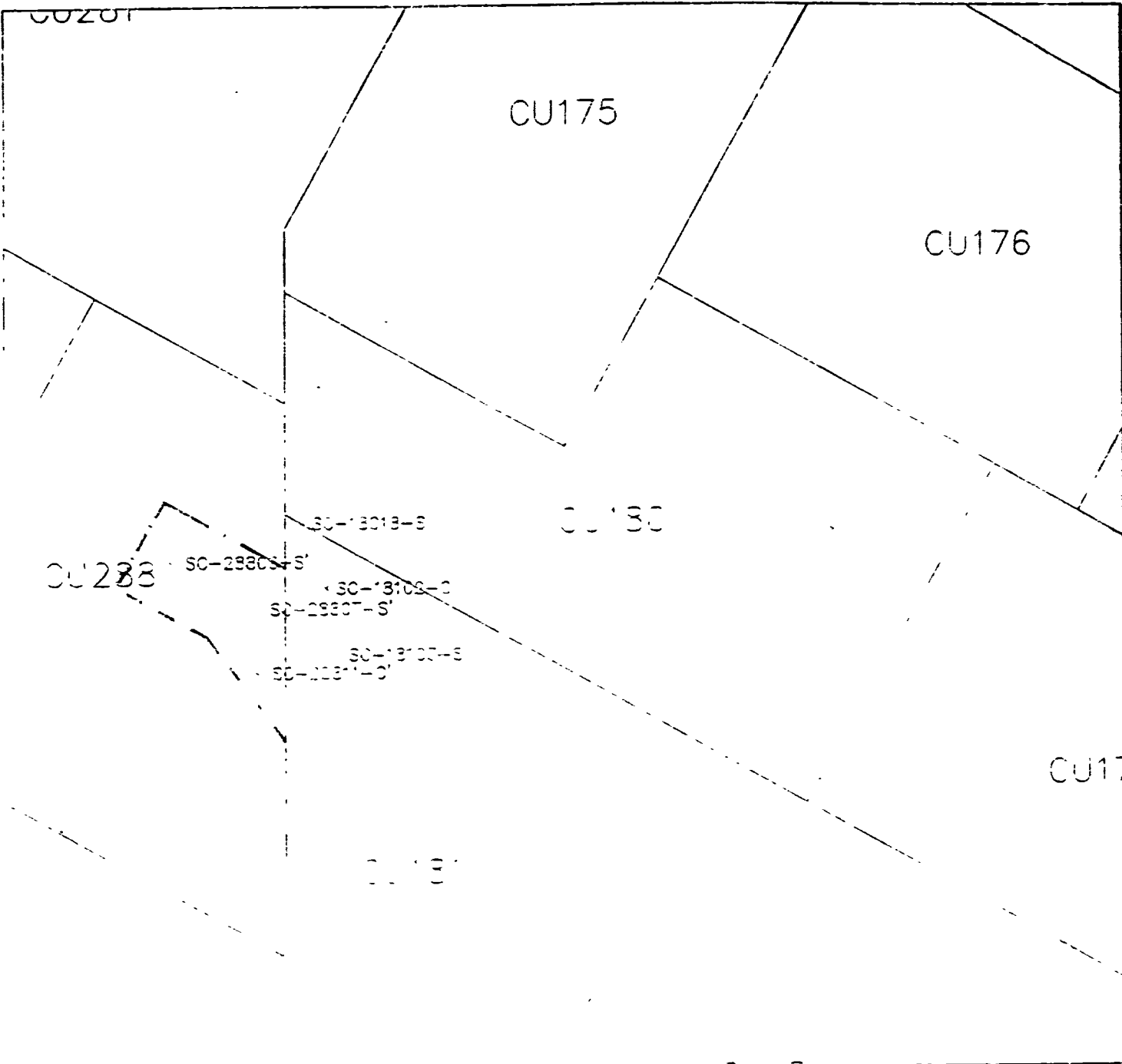
15 7.5 0 15 METERS

45 22.5 0 45 FEET



WSSRAP G18

Meter Model#: 2221 Detector Model#: 2x2 NaI "K"
 Meter Serial#: 117611 Detector Serial#: 126402
 Calibration Due: 1-8-99 Calibration Due: 1-22-99
 Survey Date/Time: 10-26-99 Field Bkg: 4800 (shielded)
 Surveyor(s): J. Rankins
 Comments: Area surveyed and found to be below 1.5 times background



LEGEND

SC-32606-S

SAMPLE POINTS PINNED
PINNING LIMITS



GRAPHIC SCALE



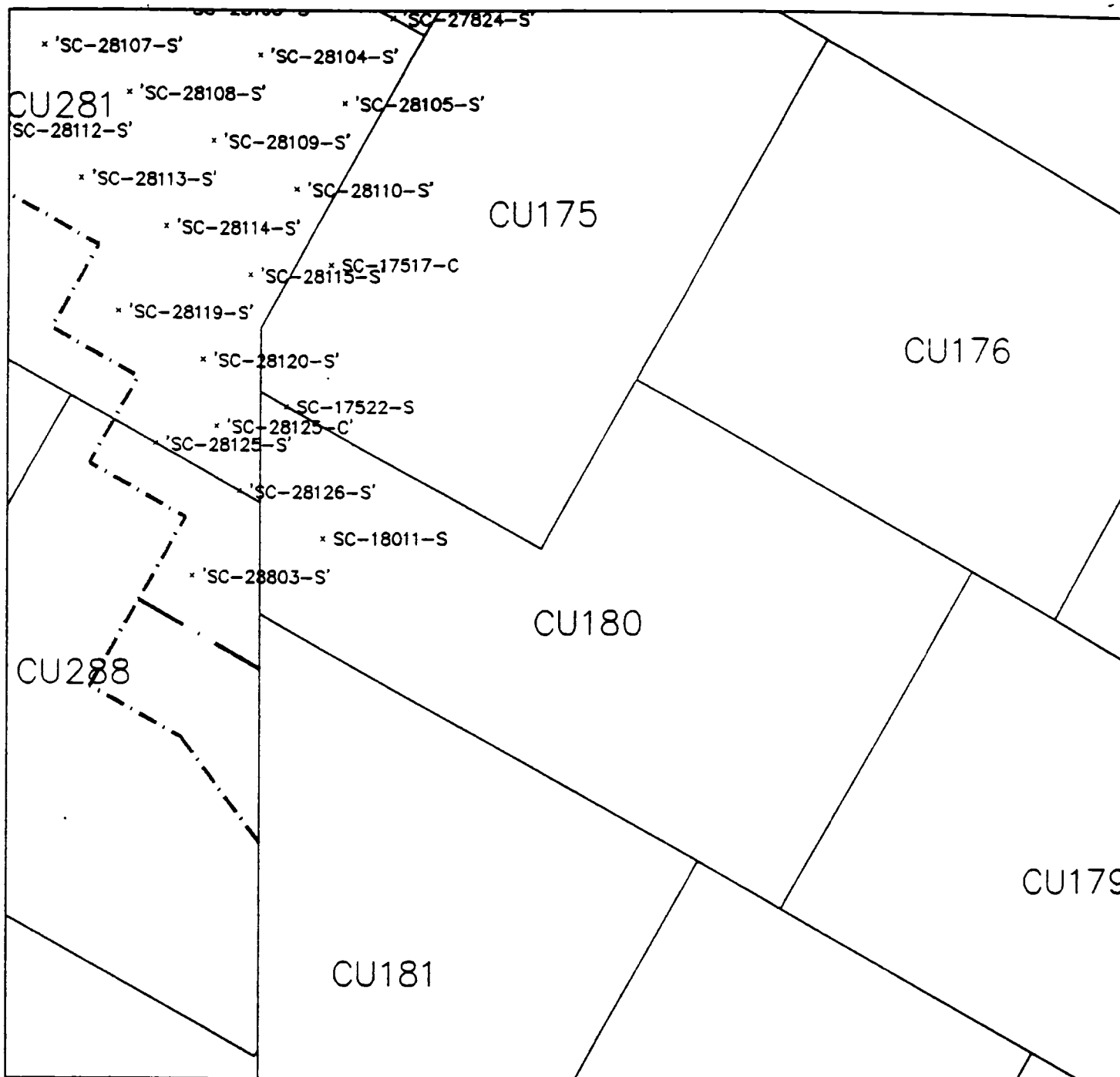
(IN FEET)

1 inch = 50 ft

Radiation Survey Form WP 487-10 18 CU 180
Date Plotted 6/23/80

DEC CAD

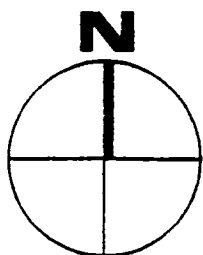
Meter Model #	2221	Detector Model #	222 P
Meter Serial #	154199	Detector Serial #	17606
Calibration Due	2/9/81	Calibration Due	12/81
Survey Date / Time	6/22/80	Field Rng.	10,000 cpm
Surveyor's	Brower		
Comments	2.1 readings 2.5 BK		



LEGEND

'SC-32606-S'

SAMPLE POINTS PINNED
PINNING LIMITS



GRAPHIC SCALE



(IN FEET)

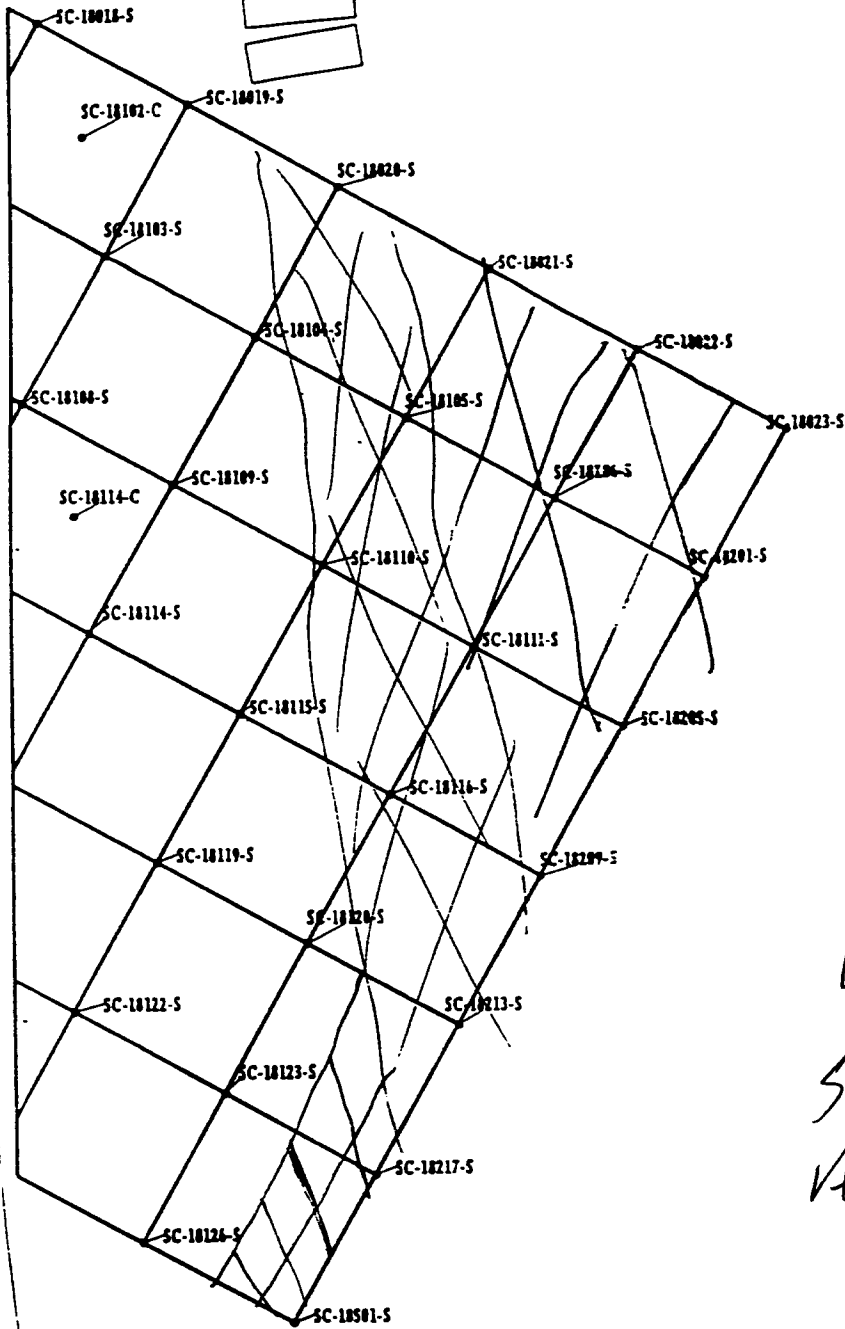
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 18 CU 180
Date Plotted 6/23/00

DRG CAD

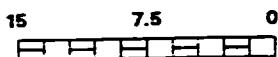
Meter Model #:	<u>2221</u>	Detector Model #:	<u>2x2 P</u>
Meter Serial #:	<u>154199</u>	Detector Serial #:	<u>17606</u>
Calibration Due:	<u>2/9/01</u>	Calibration Due:	<u>1/21/01</u>
Survey Date / Time:	<u>4/22/00</u>	Field Bkg:	<u>10,000 CPM</u>
Surveyor(s):	<u>T. Brower</u>		
Comments:	<u>All readings < 1.5 Bkg.</u>		

Radiation Survey Form WP 437, RU018 CU181

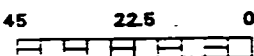


Surveyed
Area

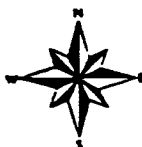
WSSRAP GIS



METERS

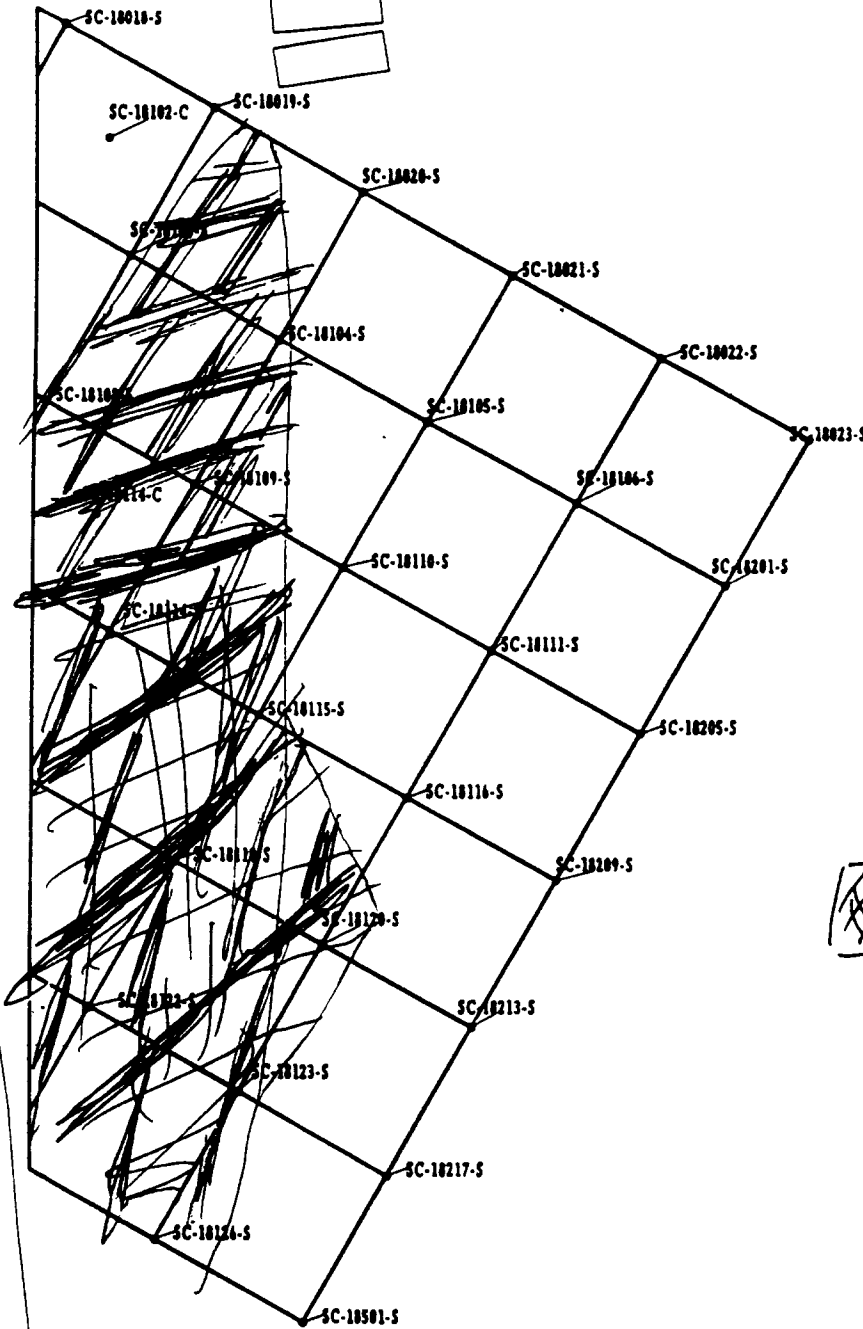


FEET



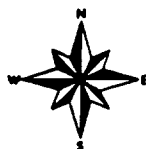
Meter Model#: 2221	Detector Model#: 2x2 NaI "K"
Meter Serial#: 117611	Detector Serial#: 126402
Calibration Due: 1-8-99	Calibration Due: 1-22-99
Survey Date/Time: 10-26-99	Field Bkg: 4800 (shielded)
Surveyor(s): J. Rankins	
Comments: Area surveyed and found to be below 1.5 times background	

Radiation Survey Form WP 437, RU018 CU181



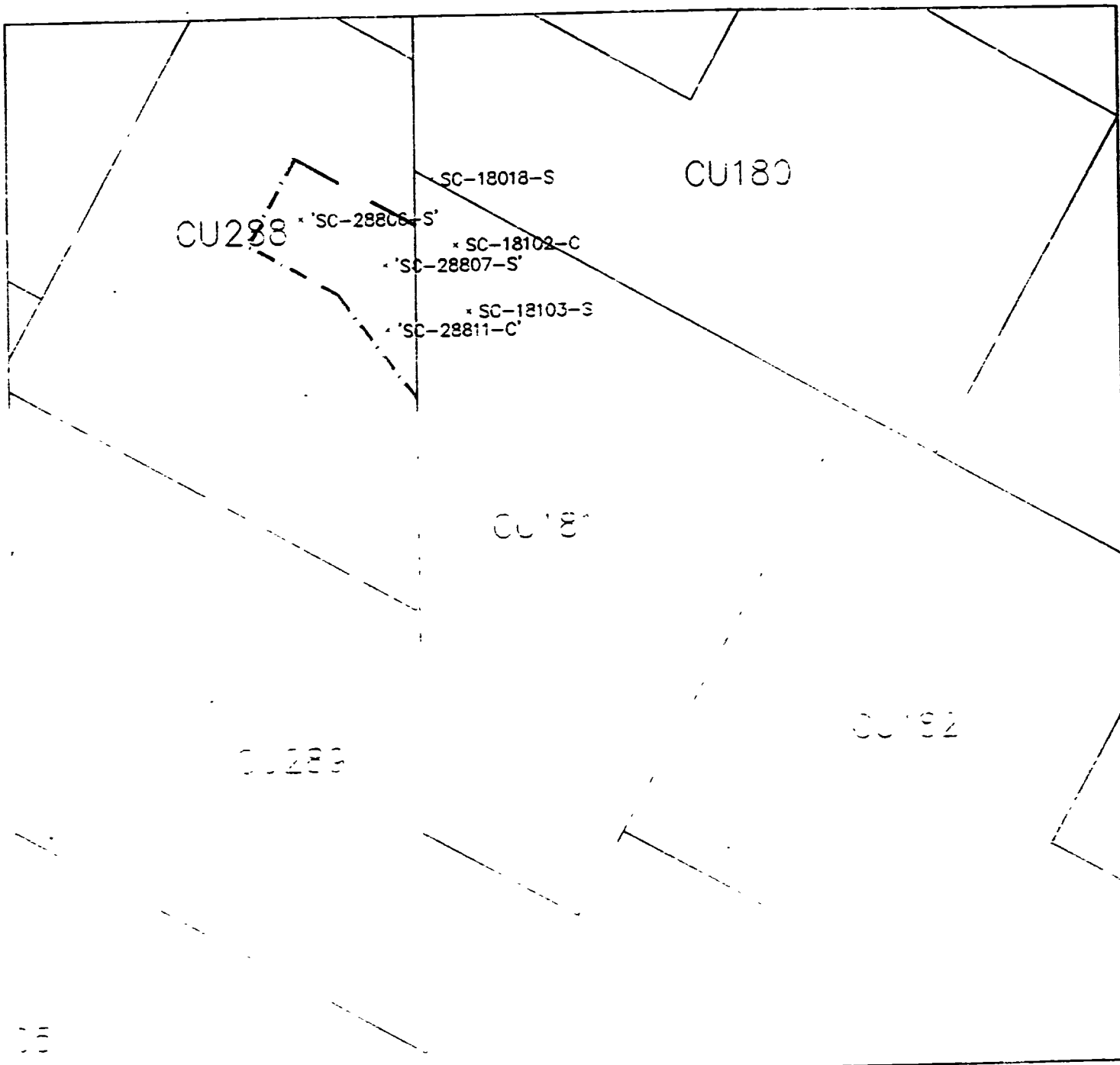
15 7.5 0
METERS

45 22.5 0
FEET



WESRAP GIS

Meter Model#: 2221 Detector Model#: 212 N4I F
Meter Serial#: 127252 Detector Serial#: 122191
Calibration Due: 8-27-99 Calibration Due: 8-11-99
Survey Date/Time: 1-28-99 (1400) Field Bkg.: 11,000 cpm
Surveyor(s): Leoni Hagoss
Comments: The area above shown has been
Surveyed and found to be
less than 1 1/2 Back-ground.



LEGEND

SC-28806-S

SAMPLE POINTS PINNED
PINNING LIMITS



GRAPHIC SCALE



(IN FEET)

1 inch = 50 ft.

Radiation Survey Form WP-87, RC 1 E CU 181
Date Plotted 6/23/00

DEC 642

Meter Model #:	<u>2221</u>	Detector Model #:	<u>2x2 P</u>
Meter Serial #:	<u>154199</u>	Detector Serial #:	<u>17106</u>
Calibration Due:	<u>2/9/01</u>	Calibration Due:	<u>1/21/01</u>
Survey Date / Time:	<u>6/22/00</u>	Flow Rate:	<u>10,000 CPM</u>
Surveyor(s):	<u>T. Brown</u>		
Comments:	<u>1" read 2.5 L/S R/C</u>		

CU288

CU180

CU181

CU289

CU182

CU410

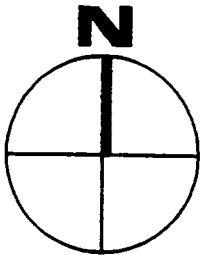
CU185

LEGEND

SAMPLE POINTS PINNED
PINNING LIMITS

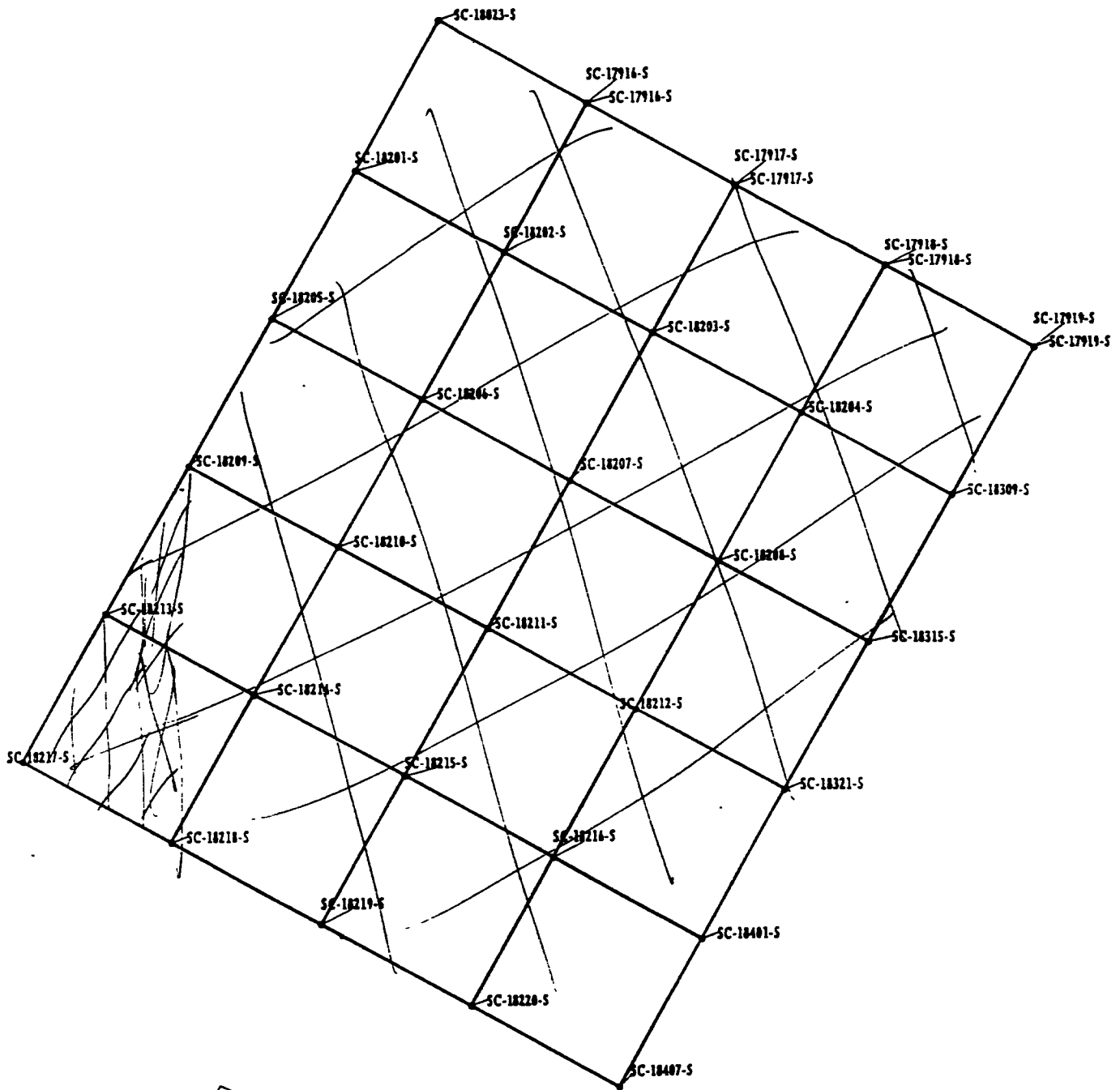
Radiation Survey Form WP 437/RU 181 CU181
Date Plotted 7/6/00

DEBO CAD



Meter Model #:	2221	Detector Model #:	2x2 'P'
Meter Serial #:	154199	Detector Serial #:	17606
Calibration Due:	2/9/01	Calibration Due:	11/21/01
Survey Date / Time:	7/5/00	Field Rtg:	10,000 CPM
Surveyor(s):	T. Brower		
Comments:	All readings < 1.5 Bkg		

Radiation Survey Form WP 437, RU018 CU182



WSSRAP GIS

15 7.5 0

METERS



45 22.5 0

FEET

Meter Model#: 2221

Detector Model#: 2x2 NaI "K"

Meter Serial#: 117611

Detector Serial#: 126402

Calibration Due: 1-8-99

Calibration Due: 1-22-99

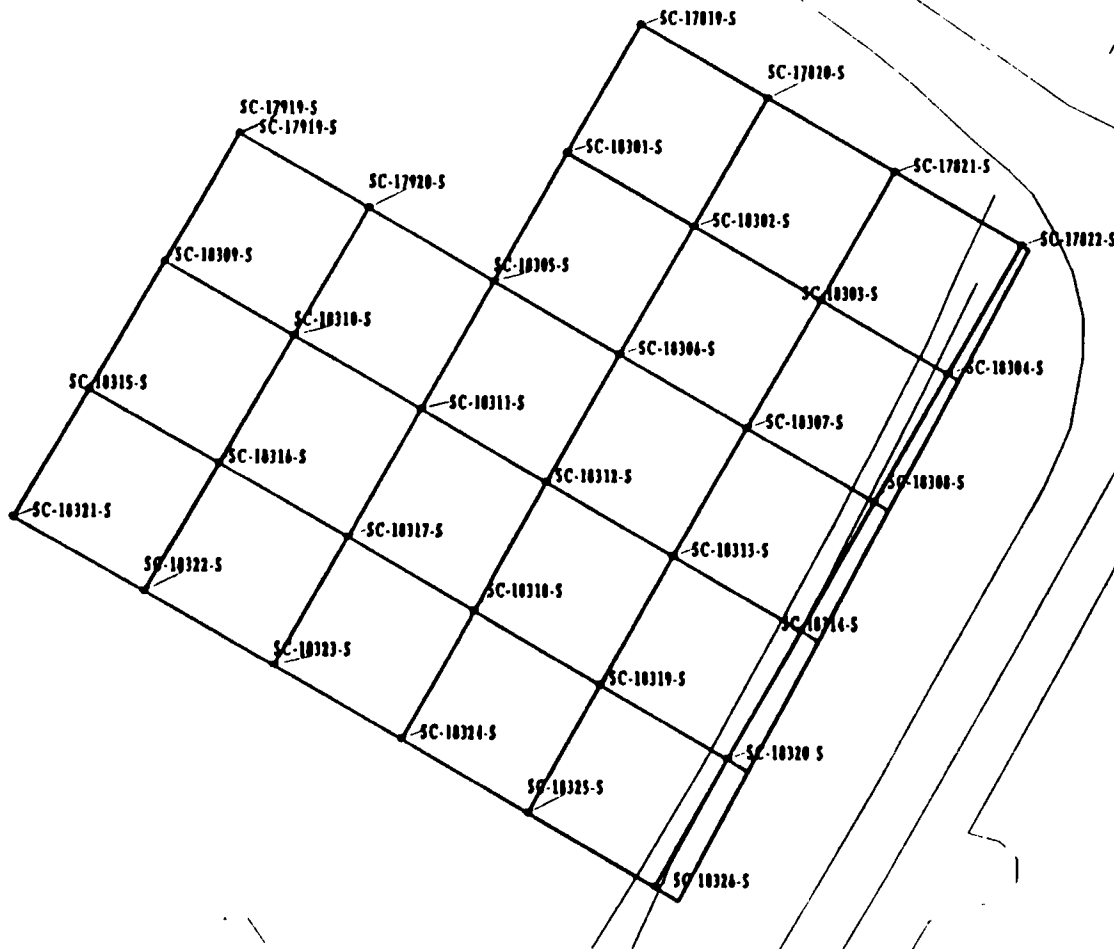
Survey Date/Time: 10-26-99

Field Bkg: 4800 (shielded)

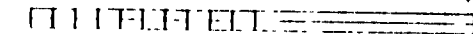
Surveyor(s): J. Rankins

Comments: Area surveyed and found to be below LS times background

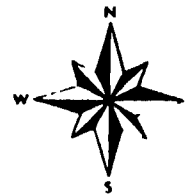
Radiation Survey Form WP 437, RU018CU183



16 7.5 0 16 METERS



45 22.5 0 45 FEET



WSSRAP 618

Meter Model# 2221 / 2221 Detector Model# 2x2 NaI "K" & "J"

Meter Serial# 99636 / 117611 Detector Serial# 126903 / 126402

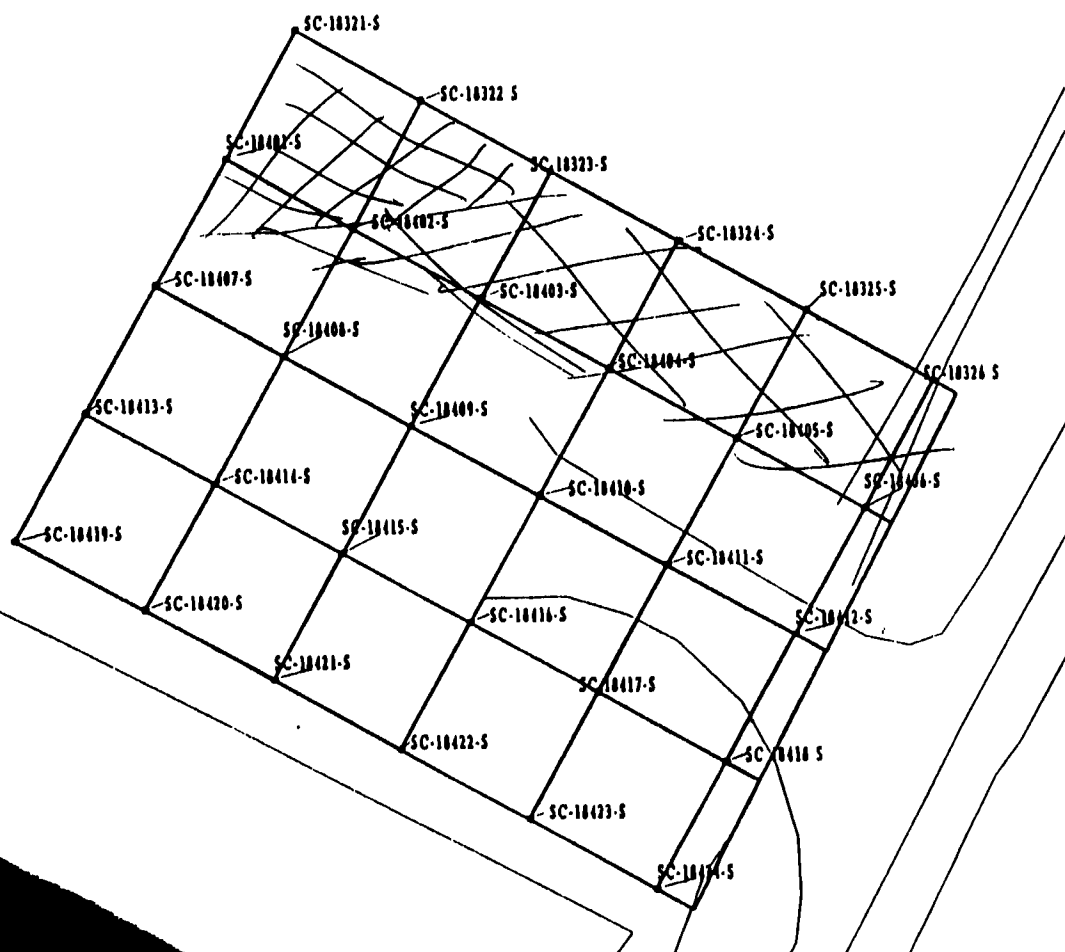
Calibration Due: 11-20-98 / 1-8-99 Calibration Due: 1-21-99 / 1-22-99

Survey Date/Time: 10-22-98 Field Bkg: 6000 (shielded)

Surveyor(s): C. Hanner & J. Rankins

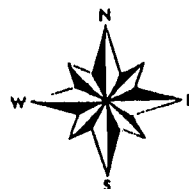
Comments: Area surveyed and found to be below 1.5 times background

Radiation Survey Form WP 437, RU018CU184



16 7.5 0 16 METERS

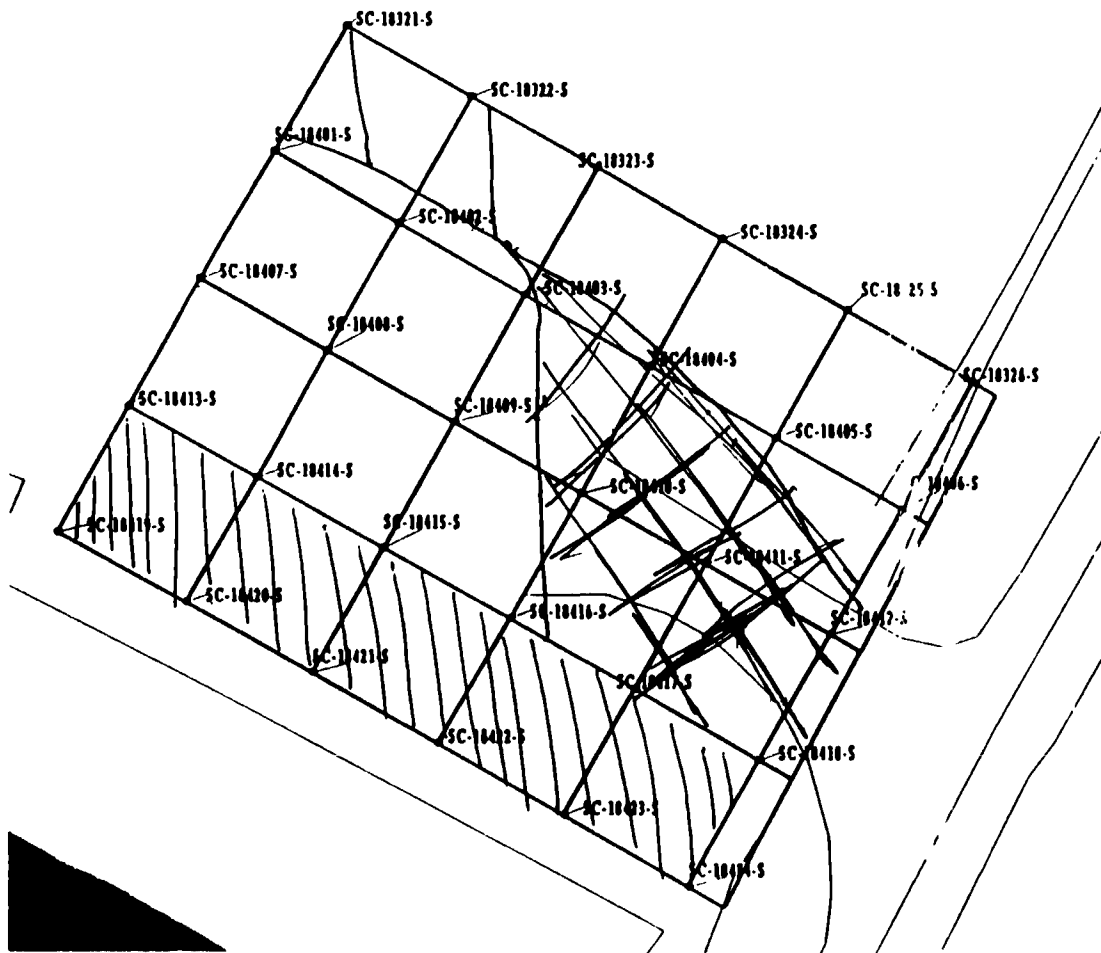
46 22.5 0 46 FEET



WSSRAP 618

Meter Model#: 2221 / 2221	Detector Model#: 2x2 NaI "K" 2'5"
Meter Serial#: 89636 / 117611	Detector Serial#: 126402 / 126402
Calibration Due: 11-20-98 / 1-8-99	Calibration Due: 1-21-99 / 1-22-99
Survey Date/Time: 10-22-98	Field Bkg.: 6000 (shielded)
Surveyor(s): C. Hammer & J. Rankins	
Comments: Area surveyed and found to be below 1.5 times background	

Radiation Survey Form WP 437, BU018CU184

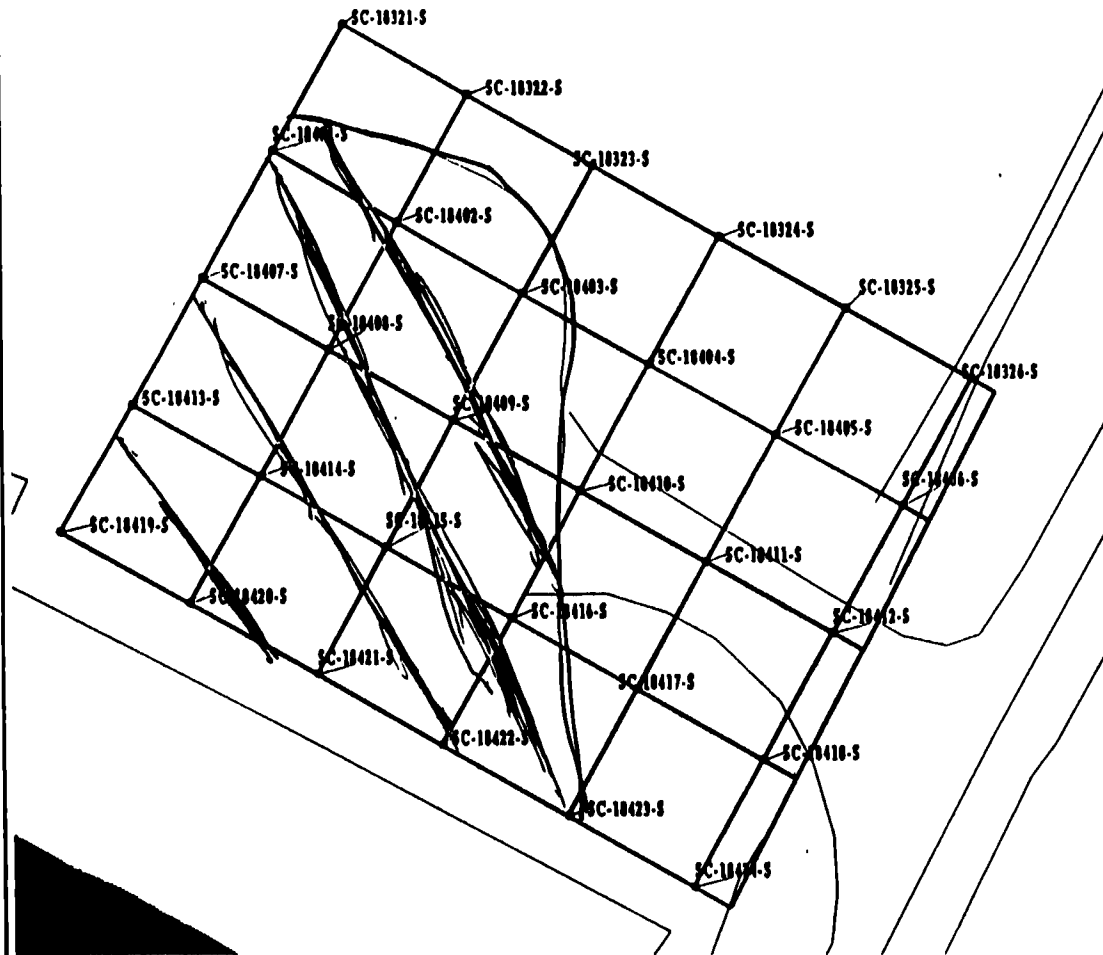


Area Surveyed

WSSRAP 618

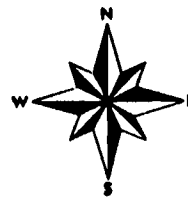
Meter Model: Ludlum 2221 Detector Model: 2x2 NaI
 Meter Serial: 126506/125470 Detector Serial: 122191F/122608I
 Calibration Due: 6-25-98/11-20-98 Calibration Due: 7-24-98/5-5-98
 Survey Date/Time: 4-2-98 (0900-1600) Field Bkg.: 10500cpm/10000cpm
 Surveyor(s): L. Hagess / M. Pacheco
 Comments: The above area surveyed and found to be less than 1 1/2 back-ground

Radiation Survey Form WP 437, RU018CU184



15 7.5 0 15 METERS

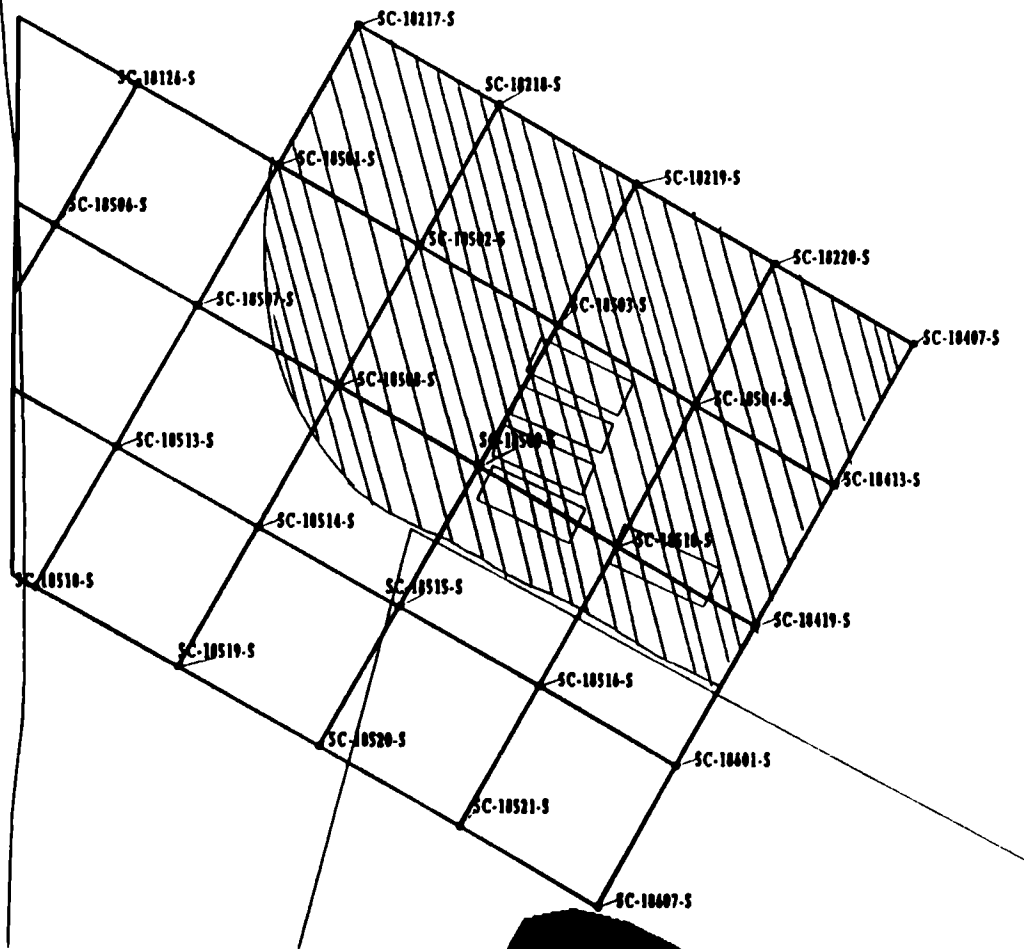
45 22.5 0 45 FEET



WSSRAP 618

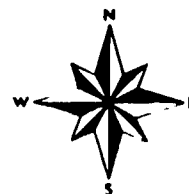
Meter Model: Lnd 2221/Lnd 2221 Detector Model: Lnd 2x2 NaI
 Meter Serial#: 125470/126506 Detector Serial#: 122608/122191
 Calibration Due: 11/20/98/6/25/98 Calibration Due: 5/5/98/7/24/98
 Survey Date/Time: 3/3/98/13:30 Field Bkg.: 10000cpm/12000cpm
 Surveyor(s): J. Bowhay, M. Smith
 Comments: AREA NEAR NORTHEAST BORDER WAS APPROXIMATELY
2 X BACKGROUND DUE TO ~~AREA~~ CONTAMINATED DITCH RUNNING
ALONG BORDER ALL OTHER AREAS LESS THAN 1.5 X
BACKGROUND.

Radiation Survey Form WP 437, BU018CU185



15 7.5 0 15 METERS

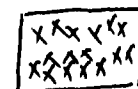
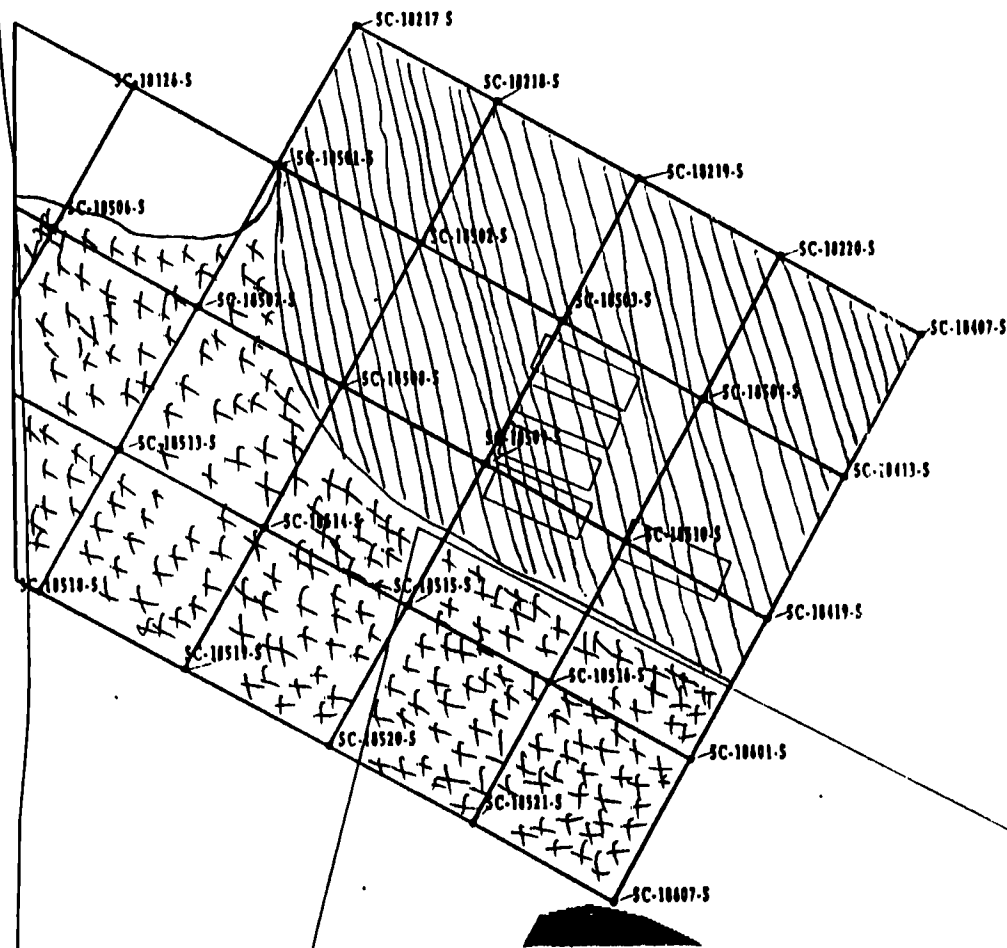
45 22.5 0 45 FEET



WSSRAP G18

Meter Model#: Ludlum Model 2220 Detector Model#: Ludlum Model 44-10
 Meter Serial#: 48400/48407 Detector Serial#: 126402/122912
 Calibration Due: 12-11-98/11-20-98 Calibration Due: 1-22-99/11-17-98
 Survey Date/Time: MARCH 3RD 1998/1430 Field Bkg.: 14564/11349
 Surveyor(s): CURT PREDE, T. WILLIAMS
 Comments: Shaded area surveyed and found to be less than 1.5X background.

Radiation Survey Form WP 437, RU018CU185

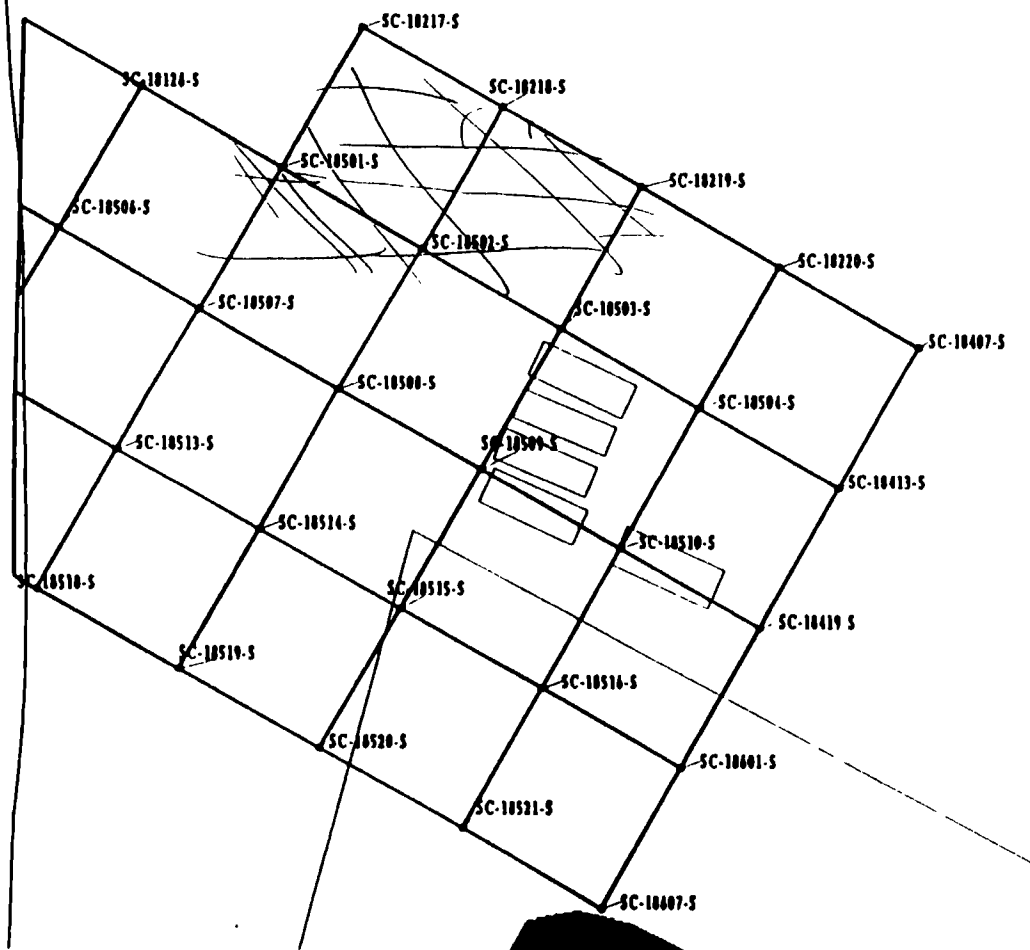


AREA SURVEYED

W88RAP

Meter Model: Ludlum 2220 Detector Model: 44-10
 Meter Serial: 126506/125470 Detector Serial: 122191/12260
 Calibration Due: 6-25-98/5-5-98 Calibration Due: 7-24-98/11-20-98
 Survey Date/Time: 3-30-98/1000 Field Bkg.: 10,000
 Surveyor(s): M. Pacheco / L. Hagass
 Comments: Area surveyed was found to be < 1.5 x background.

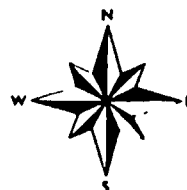
Radiation Survey Form WP 437, RU018CU185



Area
Surveyed

15 7.5 0 15 METERS

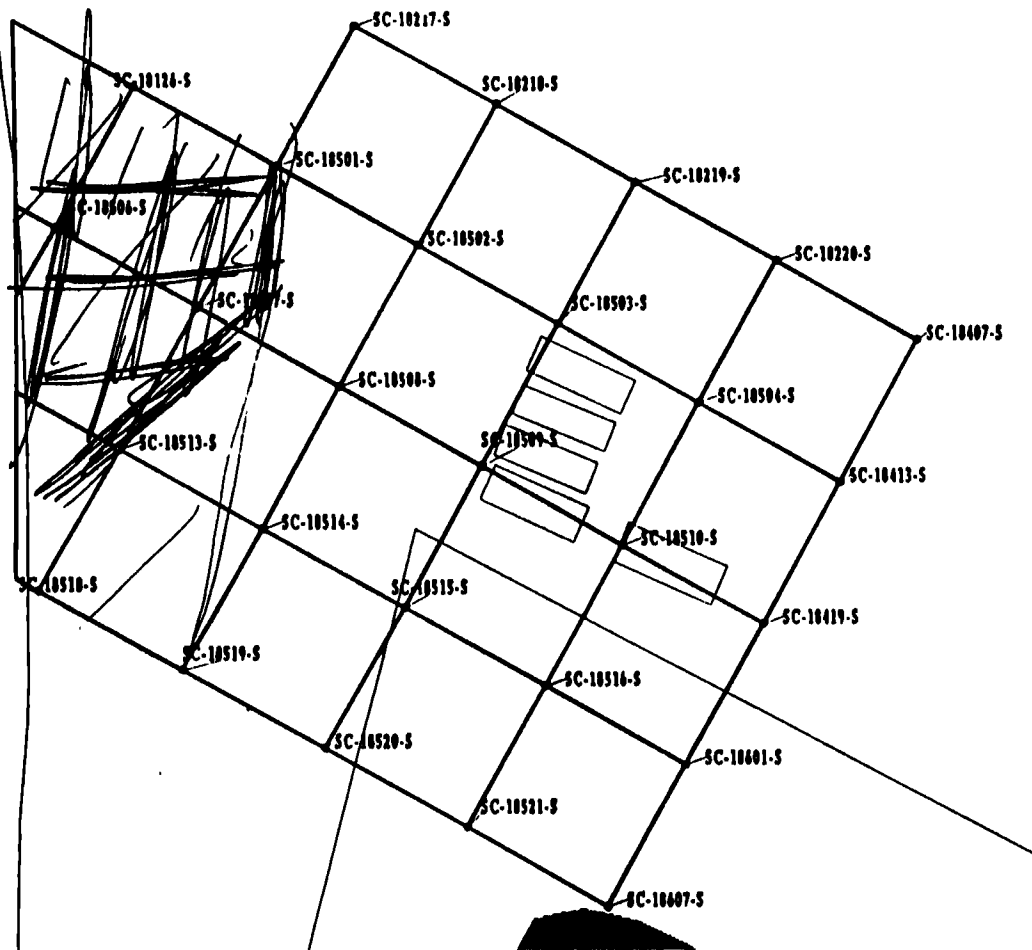
45 22.5 0 45 FEET



WSSRAP 618

Meter Model#: 2221	Detector Model#: 2x2 NaI "K"
Meter Serial#: 117611	Detector Serial#: 126402
Calibration Due: 1-8-99	Calibration Due: 1-22-99
Survey Date/Time: 10-26-98	Field Bkg.: 4900 (shielded)
Surveyor(s): J. Rankins	
Comments: Area surveyed and found to be below 1.5 times background	

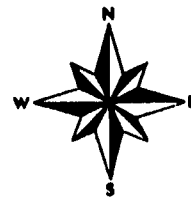
Radiation Survey Form WP 437, RU018GU185



Area Surveyed

15 7.5 0 15 METERS

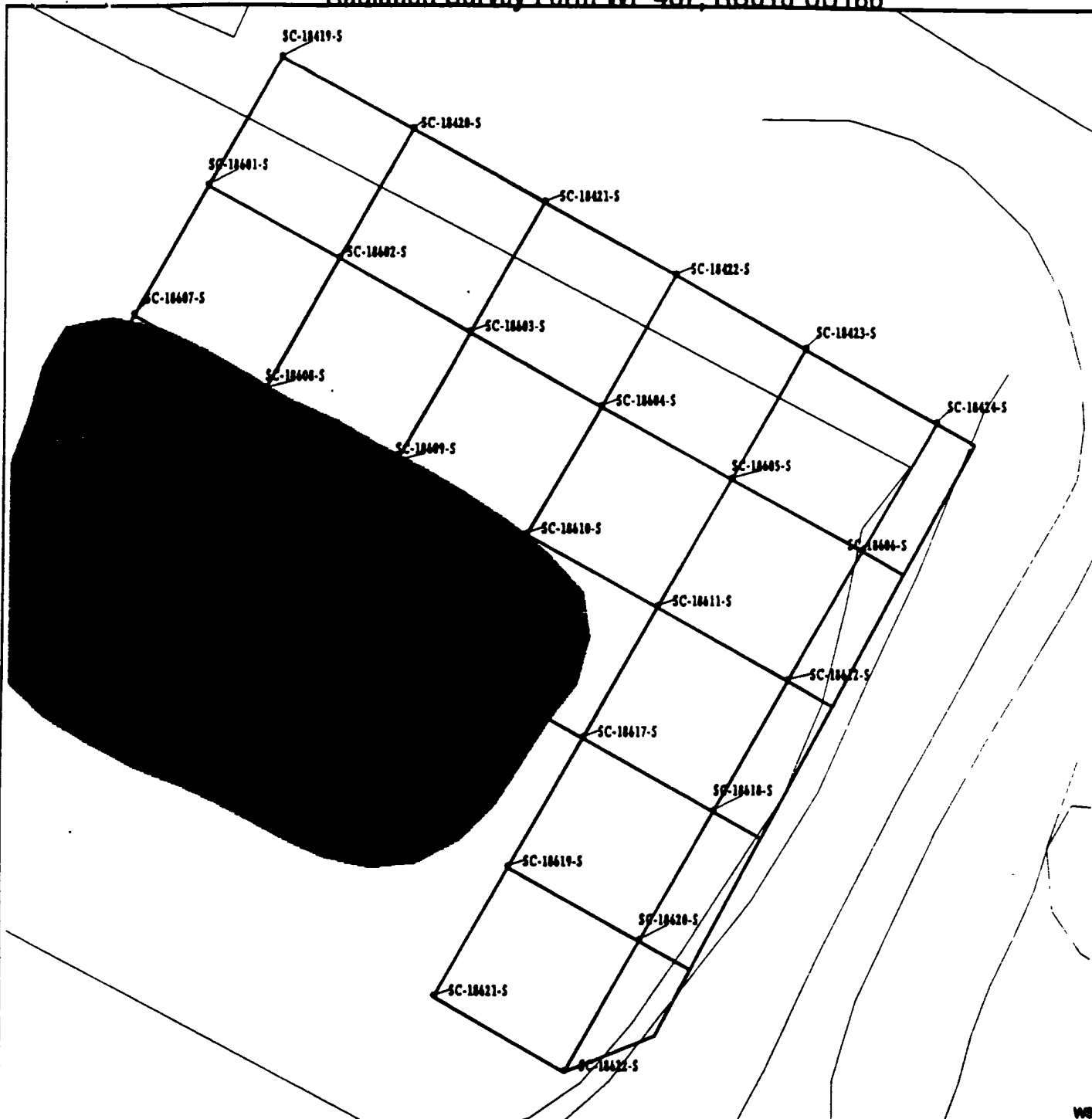
45 22.5 0 45 FEET



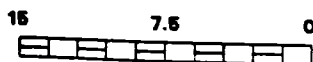
W88RAP 616

Meter Model#: 2221 Detector Model#: NaI 2x2 "F"
Meter Serial#: 127252 Detector Serial#: 122191
Calibration Due: 8-27-99 Calibration Due: 8-11-99
Survey Date/Time: 1-28-99 (1400) Field Bkg.: 16000 CPM
Surveyor(s): Leon Hagoss
Comments: The area above shown has been surveyed and found to be less than 1/2 Background.

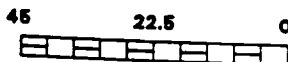
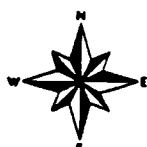
Radiation Survey Form WP 437, RU018 CU186



WSSRAP 618



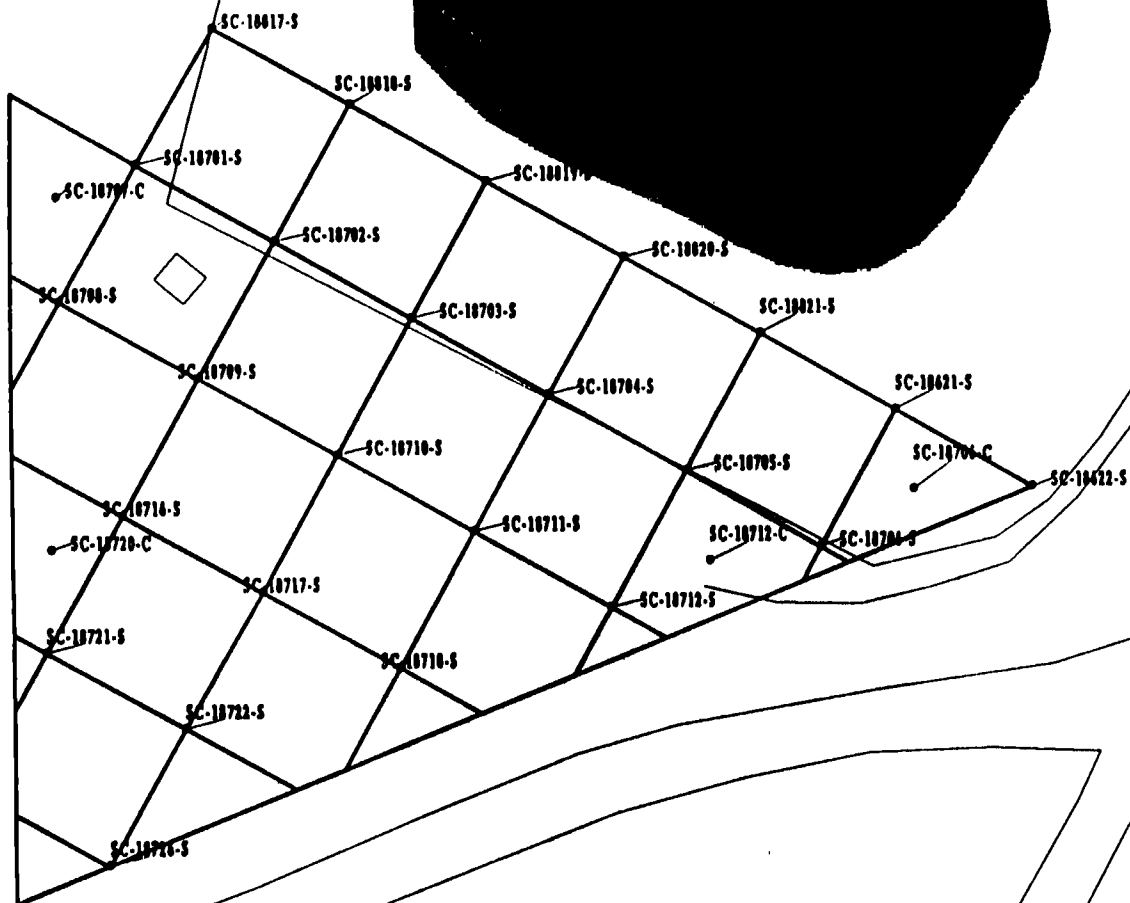
METERS



FEET

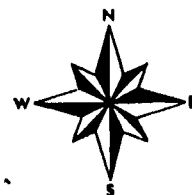
Meter Model:	<u>Ludlum 2220</u>	Detector Model:	<u>4410</u>
Meter Serial:	<u>126506/125470</u>	Detector Serial:	<u>122191F/122608</u>
Calibration Due:	<u>6/25/98/5.5.98</u>	Calibration Due:	<u>7.24.98/11.20.98</u>
Survey Date/Time:	<u>3.30.98/1530</u>	Field Bkg:	<u>10,000 cpm</u>
Surveyor(s):	<u>L Hagess M. Pacheco</u>		
Comments:	<u>The above areas were surveyed I found to be less than 1.5 x background.</u>		

Radiation Survey Form WP 437, RU018CU187



15 7.5 0 15 METERS

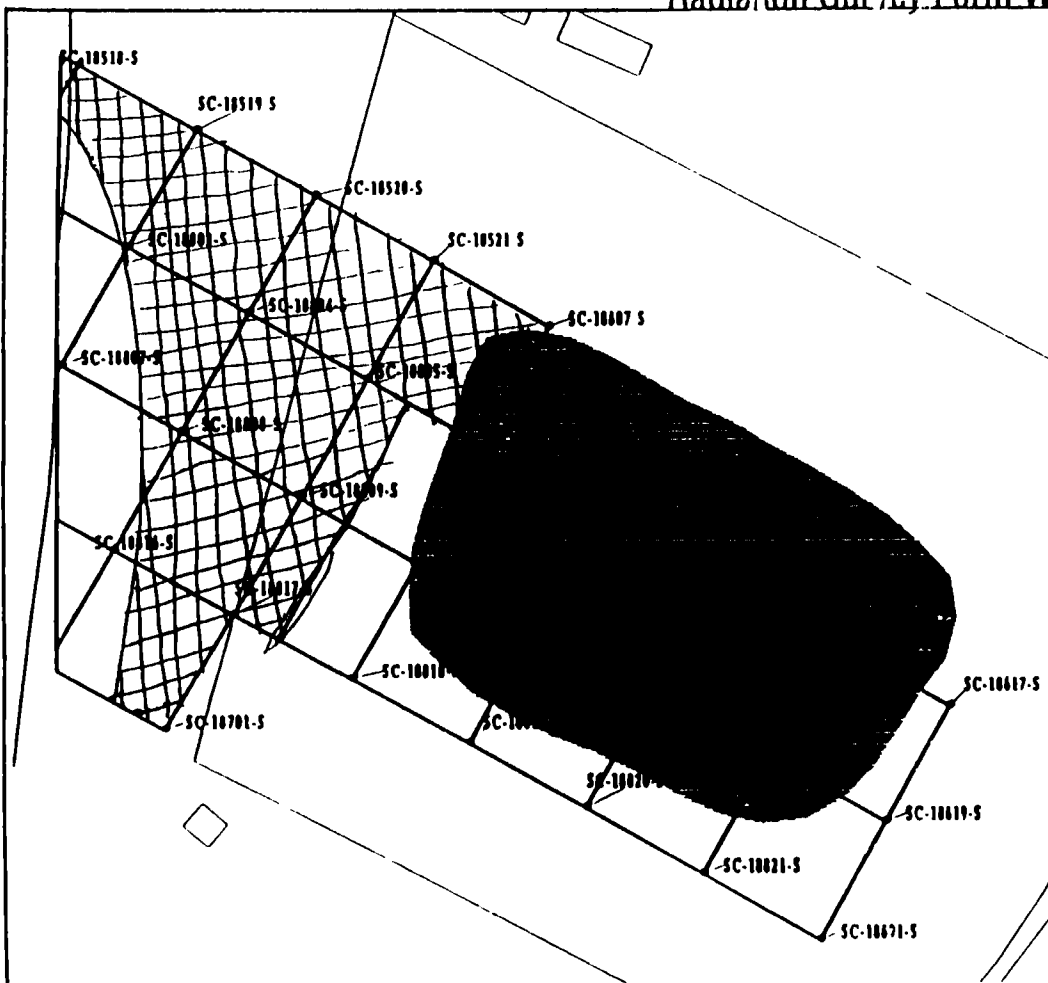
45 22.5 0 45 FEET



WBSRAP GIS

Meter Model#: 2221 Detector Model#: NAI 2x2
 Meter Serial#: 117617/126506/25470 Detector Serial#: 065321/122191/122608
 Calibration Due: 3-8-98/6-25-98/11-20-98 Calibration Due: 4-23-98/7-24-98/5-5-98
 Survey Date/Time: 3-14-98 / 0830 Field Bkg.: 10,000
 Surveyor(s): M. Pacheco/Bowhay/Hagoss
 Comments: Area was found to be less than 1 1/2 times background

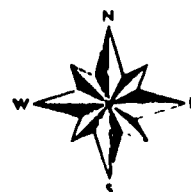
Radiation Survey Form WF 437, RU018CU188



AREA SURVEYED

15 7.5 0 15 METERS

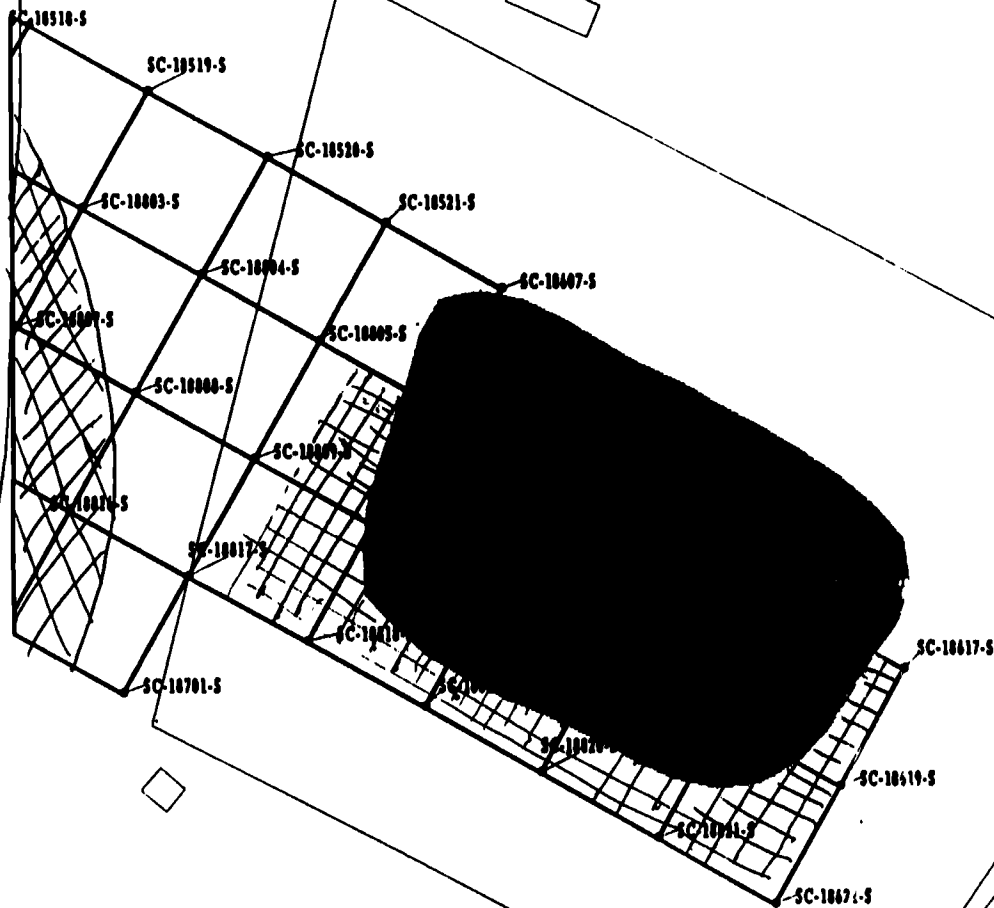
46 22.5 0 46 FEET




WSSRAP 018

Meter Model: Ludlum 2220 Detector Model: Model 44-10
 Meter Serial: 126506/125470 Detector Serial: 122191/122608
 Calibration Due: 6-25-98/5-5-98 Calibration Due: 7-24-98/11-20-98
 Survey Date/Time: 3-30-98/1000 Field Bkg: 10,000
 Surveyor(s): M. Pacheco / L. Hagoss
 Comments: Area surveyed was found to be < 1.5 x background.

Radiation Survey Form WP 437, RU018CU188



 Area surveyed

W88RAP G18


Meter Model#: 2221 Detector Model#: NaI 2x2
 Meter Serial#: 117617/125470 Detector Serial#: 065321/122608
 Calibration Due: 8-8-98/11-20-98 Calibration Due: 4-23-98/5-5-98
 Survey Date/Time: 3-16-98/1000 Field Bkg.: 12,000
 Surveyor(s): M. Pacheco / L. Hagoss
 Comments: Area was found to be less than 1 1/2 times background.

Thursday 3-9-00 "Day Shift"

- 0630- Setting up control points for today's field activities. WAS int that RCRA training for craftsmen & laborers will be h for the first part of the morning.
- 0900- Training done. Working at TSA, Cell, & decon pad. Tim swiped shell; no contam detected. John observing activity at northwest ce ramp. Excavating surface contamination off of ramp entrance / E into the cell. Performing 2x2 walkover on the ramp.
- 1030- Eric's observing TSA activity. Soil removal in progress on east perimeter. Sediment / soil are being hauled from the basin. Also, material on south section of the basin for surveyors to shoot a sample.
- 1130- Lunch
- 1235- CREW back to work.
- 1300- Eric's performing 2x2 survey on southwest corner of TSA basin. WALKOVER was found to be $< 1.5 \times \text{bkg}$; (Bkg: 4700 cpm)
- 1530- At decon pad, CAT 345 trackhoe decon complete. Tracks visual inspected, released from decon pad. Eric performing 2x2 northwest corner of TSA basin; AREA $< 1.5 \times \text{bkg}$
- 1630- At Northwest corner ramp of cell, AREA to be cleared and brought were $< 1.5 \times \text{bkg}$. Fred Fry was notified & samplers were notified for confirmation.
- 1645- Mike's collecting GA samples
- 1700- Eric's ~~to~~ securing control points
- 1730- Done for today

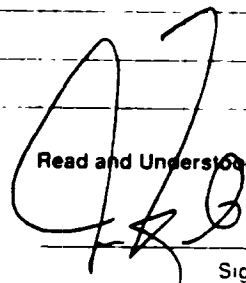
E. H.

Continued on Page


Signed

3-9-00
Date

Read and Understood By


Signed

5/16/00
Date

Linda Broody

From: David Fleming
Sent: Friday, January 12, 2001 9:58 AM
To: Linda Broody
Cc: Melissa Lutz
Subject: Estimated 2x2 Background for CU 396 Walkover

A walkover was performed in CU 396 on 3-9-00 by ES&H technician Jonathan Rankins using 2x2 "M" with the following parameters:

Meter Model # 2221	Detector Model # 2x2 Nal "M"
Meter Serial # 117617	Detector Serial # 130764
Calibration Due: 10-13-00	Calibration Due: 9-24-00
Survey Date: 3-9-00	Field Background: Not Recorded

This walkover was documented in WP-437 Logbook # 2000-0005 on the 3-7-00 day shift entry. It was recorded that all results were less than 1.5 times background, however the background count rate was not recorded. Also, no walkover survey form was generated for CU 396.

Site experience has shown that the background count rate in various areas for a given 2x2 Nal scintillation detector does not vary greatly so long as there are no significant sources of above-background gamma radiation present, and the local terrains are similar (i.e., similar soil topography, similar amounts of rock or standing water present, etc.). These conditions were true for walkovers performed around 3-9-00 in other CUs using 2x2 Nal "M" with the following background count rates, documented on walkover survey forms in our files:

CU 208 walkover performed on 3-1-00, bkg = 4,500 cpm
CU 349 walkover performed on 3-7-00, bkg = 6,400 cpm
CU 208 & 210 walkovers performed on 3-13-00, bkg = 4,500 cpm
CU 225 & 226 walkovers performed on 3-24-00, bkg = 6,000 cpm
CU 208 walkover performed on 4-20-00, bkg = 6,000 cpm
CU 208 walkover performed on 4-23-00, bkg = 5,700 cpm

Therefore, I believe an appropriate estimate for the background count rate for the 3-9-00 CU 396 walkover would be 4,500 to 6,400 cpm.

APPENDIX B
Final Data

APPENDIX B WP-437 RU18 FINAL DATA

WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-18124-S	7/14/2000	2,4,6-TRINITROTOLUENE	0.155	0.31	UG/G
SC-18127-S	7/14/2000	2,4,6-TRINITROTOLUENE	0.145	0.29	UG/G
SC-18209-S	10/27/1998	2,4,6-TRINITROTOLUENE	0.76	0.23	UG/G
SC-18210-S	10/27/1998	2,4,6-TRINITROTOLUENE	0.12	0.24	UG/G
SC-18214-S	10/27/1998	2,4,6-TRINITROTOLUENE	0.115	0.23	UG/G
SC-18217-S	10/27/1998	2,4,6-TRINITROTOLUENE	0.11	0.22	UG/G
SC-18522-S	7/14/2000	2,4,6-TRINITROTOLUENE	0.15	0.3	UG/G
SC-18523-S	7/14/2000	2,4,6-TRINITROTOLUENE	0.15	0.3	UG/G
SC-17102-S	9/29/1998	AROCLOR-1248	0	40	UG/KG
SC-17103-S	9/29/1998	AROCLOR-1248	0	40	UG/KG
SC-17106-S	9/29/1998	AROCLOR-1248	0	390	UG/KG
SC-17107-S	9/29/1998	AROCLOR-1248	0	38	UG/KG
SC-17110-S	9/29/1998	AROCLOR-1248	0	40	UG/KG
SC-17111-S	9/29/1998	AROCLOR-1248	0	38	UG/KG
SC-17203-C	9/29/1998	AROCLOR-1248	0	38	UG/KG
SC-17204-S	9/29/1998	AROCLOR-1248	0	40	UG/KG
SC-17205-C	9/29/1998	AROCLOR-1248	0	38	UG/KG
SC-17205-S	9/29/1998	AROCLOR-1248	0	41	UG/KG
SC-17206-S	9/29/1998	AROCLOR-1248	0	38	UG/KG
SC-17207-S	9/29/1998	AROCLOR-1248	0	36	UG/KG
SC-17211-S	9/29/1998	AROCLOR-1248	0	38	UG/KG
SC-17212-S	9/29/1998	AROCLOR-1248	0	38	UG/KG
SC-17213-S	9/29/1998	AROCLOR-1248	0	35	UG/KG
SC-17214-C	9/29/1998	AROCLOR-1248	0	36	UG/KG
SC-17214-S	9/29/1998	AROCLOR-1248	0	39	UG/KG
SC-17901-S	10/23/1998	AROCLOR-1248	0	42	UG/KG
SC-17902-S	10/23/1998	AROCLOR-1248	0	39	UG/KG
SC-17903-S	10/23/1998	AROCLOR-1248	0	38	UG/KG
SC-17904-S	10/23/1998	AROCLOR-1248	0	38	UG/KG
SC-17905-S	10/23/1998	AROCLOR-1248	0	37	UG/KG
SC-17906-S	10/23/1998	AROCLOR-1248	0	40	UG/KG
SC-17907-S	10/23/1998	AROCLOR-1248	0	43	UG/KG
SC-17908-S	10/23/1998	AROCLOR-1248	0	41	UG/KG
SC-17909-S	10/23/1998	AROCLOR-1248	0	39	UG/KG
SC-17910-S	10/23/1998	AROCLOR-1248	0	37	UG/KG
SC-17911-S	10/23/1998	AROCLOR-1248	0	37	UG/KG
SC-17912-S	10/23/1998	AROCLOR-1248	0	38	UG/KG
SC-17913-S	10/23/1998	AROCLOR-1248	0	35	UG/KG
SC-17914-S	10/23/1998	AROCLOR-1248	0	40	UG/KG
SC-17915-S	10/23/1998	AROCLOR-1248	0	36	UG/KG
SC-17916-S	10/23/1998	AROCLOR-1248	0	41	UG/KG
SC-17917-S	10/23/1998	AROCLOR-1248	0	37	UG/KG
SC-17918-S	10/23/1998	AROCLOR-1248	0	36	UG/KG
SC-17919-S	10/23/1998	AROCLOR-1248	0	40	UG/KG
SC-17920-S	10/23/1998	AROCLOR-1248	0	36	UG/KG
SC-17102-S	9/29/1998	AROCLOR-1254	0	40	UG/KG
SC-17103-S	9/29/1998	AROCLOR-1254	0	40	UG/KG
SC-17106-S	9/29/1998	AROCLOR-1254	1900	390	UG/KG

APPENDIX B WP-437 RU18 FINAL DATA

WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-17107-S	9/29/1998	AROCLOR-1254	0	38	UG/KG
SC-17110-S	9/29/1998	AROCLOR-1254	0	40	UG/KG
SC-17111-S	9/29/1998	AROCLOR-1254	0	38	UG/KG
SC-17203-C	9/29/1998	AROCLOR-1254	0	38	UG/KG
SC-17204-S	9/29/1998	AROCLOR-1254	0	40	UG/KG
SC-17205-C	9/29/1998	AROCLOR-1254	0	38	UG/KG
SC-17205-S	9/29/1998	AROCLOR-1254	0	41	UG/KG
SC-17206-S	9/29/1998	AROCLOR-1254	0	38	UG/KG
SC-17207-S	9/29/1998	AROCLOR-1254	0	36	UG/KG
SC-17211-S	9/29/1998	AROCLOR-1254	0	38	UG/KG
SC-17212-S	9/29/1998	AROCLOR-1254	0	38	UG/KG
SC-17213-S	9/29/1998	AROCLOR-1254	0	35	UG/KG
SC-17214-C	9/29/1998	AROCLOR-1254	0	36	UG/KG
SC-17214-S	9/29/1998	AROCLOR-1254	0	39	UG/KG
SC-17901-S	10/23/1998	AROCLOR-1254	0	42	UG/KG
SC-17902-S	10/23/1998	AROCLOR-1254	0	39	UG/KG
SC-17903-S	10/23/1998	AROCLOR-1254	0	38	UG/KG
SC-17904-S	10/23/1998	AROCLOR-1254	0	38	UG/KG
SC-17905-S	10/23/1998	AROCLOR-1254	0	37	UG/KG
SC-17906-S	10/23/1998	AROCLOR-1254	0	40	UG/KG
SC-17907-S	10/23/1998	AROCLOR-1254	0	43	UG/KG
SC-17908-S	10/23/1998	AROCLOR-1254	0	41	UG/KG
SC-17909-S	10/23/1998	AROCLOR-1254	0	39	UG/KG
SC-17910-S	10/23/1998	AROCLOR-1254	0	37	UG/KG
SC-17911-S	10/23/1998	AROCLOR-1254	0	37	UG/KG
SC-17912-S	10/23/1998	AROCLOR-1254	0	38	UG/KG
SC-17913-S	10/23/1998	AROCLOR-1254	0	35	UG/KG
SC-17914-S	10/23/1998	AROCLOR-1254	0	40	UG/KG
SC-17915-S	10/23/1998	AROCLOR-1254	0	36	UG/KG
SC-17916-S	10/23/1998	AROCLOR-1254	0	41	UG/KG
SC-17917-S	10/23/1998	AROCLOR-1254	0	37	UG/KG
SC-17918-S	10/23/1998	AROCLOR-1254	0	36	UG/KG
SC-17919-S	10/23/1998	AROCLOR-1254	0	40	UG/KG
SC-17920-S	10/23/1998	AROCLOR-1254	0	36	UG/KG
SC-17102-S	9/29/1998	AROCLOR-1260	0	40	UG/KG
SC-17103-S	9/29/1998	AROCLOR-1260	0	40	UG/KG
SC-17106-S	9/29/1998	AROCLOR-1260	0	390	UG/KG
SC-17107-S	9/29/1998	AROCLOR-1260	0	38	UG/KG
SC-17110-S	9/29/1998	AROCLOR-1260	0	40	UG/KG
SC-17111-S	9/29/1998	AROCLOR-1260	0	38	UG/KG
SC-17203-C	9/29/1998	AROCLOR-1260	0	38	UG/KG
SC-17204-S	9/29/1998	AROCLOR-1260	0	40	UG/KG
SC-17205-C	9/29/1998	AROCLOR-1260	0	38	UG/KG
SC-17205-S	9/29/1998	AROCLOR-1260	0	41	UG/KG
SC-17206-S	9/29/1998	AROCLOR-1260	0	38	UG/KG
SC-17207-S	9/29/1998	AROCLOR-1260	0	36	UG/KG
SC-17211-S	9/29/1998	AROCLOR-1260	0	38	UG/KG
SC-17212-S	9/29/1998	AROCLOR-1260	0	38	UG/KG

APPENDIX B WP-437 RU18 FINAL DATA

WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-17213-S	9/29/1998	AROCLOR-1260	0	35	UG/KG
SC-17214-C	9/29/1998	AROCLOR-1260	0	36	UG/KG
SC-17214-S	9/29/1998	AROCLOR-1260	0	39	UG/KG
SC-17901-S	10/23/1998	AROCLOR-1260	0	42	UG/KG
SC-17902-S	10/23/1998	AROCLOR-1260	0	39	UG/KG
SC-17903-S	10/23/1998	AROCLOR-1260	0	38	UG/KG
SC-17904-S	10/23/1998	AROCLOR-1260	0	38	UG/KG
SC-17905-S	10/23/1998	AROCLOR-1260	0	37	UG/KG
SC-17906-S	10/23/1998	AROCLOR-1260	0	40	UG/KG
SC-17907-S	10/23/1998	AROCLOR-1260	0	43	UG/KG
SC-17908-S	10/23/1998	AROCLOR-1260	0	41	UG/KG
SC-17909-S	10/23/1998	AROCLOR-1260	0	39	UG/KG
SC-17910-S	10/23/1998	AROCLOR-1260	0	37	UG/KG
SC-17911-S	10/23/1998	AROCLOR-1260	0	37	UG/KG
SC-17912-S	10/23/1998	AROCLOR-1260	0	38	UG/KG
SC-17913-S	10/23/1998	AROCLOR-1260	0	35	UG/KG
SC-17914-S	10/23/1998	AROCLOR-1260	0	40	UG/KG
SC-17915-S	10/23/1998	AROCLOR-1260	0	36	UG/KG
SC-17916-S	10/23/1998	AROCLOR-1260	0	41	UG/KG
SC-17917-S	10/23/1998	AROCLOR-1260	0	37	UG/KG
SC-17918-S	10/23/1998	AROCLOR-1260	0	36	UG/KG
SC-17919-S	10/23/1998	AROCLOR-1260	0	40	UG/KG
SC-17920-S	10/23/1998	AROCLOR-1260	0	36	UG/KG
SC-17018-S-RS	10/15/1998	BENZO(A)ANTHRACENE	0	4.4	UG/KG
SC-18114-S-RS	7/6/2000	BENZO(A)ANTHRACENE	0	18	UG/KG
SC-18115-S-RS	7/6/2000	BENZO(A)ANTHRACENE	0	18	UG/KG
SC-18116-S-RS	7/6/2000	BENZO(A)ANTHRACENE	0	18	UG/KG
SC-17018-S-RS	10/15/1998	BENZO(A)PYRENE	0	7.3	UG/KG
SC-18114-S-RS	7/6/2000	BENZO(A)PYRENE	0	18	UG/KG
SC-18115-S-RS	7/6/2000	BENZO(A)PYRENE	0	18	UG/KG
SC-18116-S-RS	7/6/2000	BENZO(A)PYRENE	0	18	UG/KG
SC-17018-S-RS	10/15/1998	BENZO(B)FLUORANTHENE	0	5.8	UG/KG
SC-18114-S-RS	7/6/2000	BENZO(B)FLUORANTHENE	0	18	UG/KG
SC-18115-S-RS	7/6/2000	BENZO(B)FLUORANTHENE	0	18	UG/KG
SC-18116-S-RS	7/6/2000	BENZO(B)FLUORANTHENE	0	18	UG/KG
SC-17018-S-RS	10/15/1998	BENZO(K)FLUORANTHENE	0	5.3	UG/KG
SC-18114-S-RS	7/6/2000	BENZO(K)FLUORANTHENE	0	18	UG/KG
SC-18115-S-RS	7/6/2000	BENZO(K)FLUORANTHENE	0	18	UG/KG
SC-18116-S-RS	7/6/2000	BENZO(K)FLUORANTHENE	0	18	UG/KG
SC-17018-S-RS	10/15/1998	CHRYSENE	0	48	UG/KG
SC-18114-S-RS	7/6/2000	CHRYSENE	0	18	UG/KG
SC-18115-S-RS	7/6/2000	CHRYSENE	0	18	UG/KG
SC-18116-S-RS	7/6/2000	CHRYSENE	28	18	UG/KG
SC-17018-S-RS	10/15/1998	INDENO(1,2,3-CD)PYRENE	0	14	UG/KG
SC-18114-S-RS	7/6/2000	INDENO(1,2,3-CD)PYRENE	0	18	UG/KG
SC-18115-S-RS	7/6/2000	INDENO(1,2,3-CD)PYRENE	0	18	UG/KG
SC-18116-S-RS	7/6/2000	INDENO(1,2,3-CD)PYRENE	0	18	UG/KG
SC-18209-S	10/27/1998	LEAD	13	7.06	UG/G

APPENDIX B WP-437 RU18 FINAL DATA

WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-18210-S	10/27/1998	LEAD	13.4	7.97	UG/G
SC-18214-S	10/27/1998	LEAD	11	7.05	UG/G
SC-18217-S	10/27/1998	LEAD	12.8	7.4	UG/G
SC-17002-S	9/29/1998	RADIUM-226	1.23	0.34	PCI/G
SC-17003-S	9/29/1998	RADIUM-226	1.42	0.31	PCI/G
SC-17004-S	9/29/1998	RADIUM-226	1.48	0.38	PCI/G
SC-17005-S	9/29/1998	RADIUM-226	1.1	0.33	PCI/G
SC-17007-S	9/29/1998	RADIUM-226	1.51	0.33	PCI/G
SC-17008-S	9/29/1998	RADIUM-226	1.36	0.24	PCI/G
SC-17009-S	9/29/1998	RADIUM-226	1.33	0.22	PCI/G
SC-17010-S	9/29/1998	RADIUM-226	1.4	0.36	PCI/G
SC-17011-C	9/29/1998	RADIUM-226	1.5	0.31	PCI/G
SC-17012-S	9/29/1998	RADIUM-226	1.46	0.4	PCI/G
SC-17013-S	9/29/1998	RADIUM-226	1.2	0.22	PCI/G
SC-17014-S	9/29/1998	RADIUM-226	1.38	0.34	PCI/G
SC-17015-S	9/29/1998	RADIUM-226	1.52	0.26	PCI/G
SC-17017-S	9/29/1998	RADIUM-226	1.68	0.41	PCI/G
SC-17018-S	9/29/1998	RADIUM-226	1.62	0.31	PCI/G
SC-17018-S-RS	10/15/1998	RADIUM-226	1.66	0.32	PCI/G
SC-17019-S	9/29/1998	RADIUM-226	1.25	0.39	PCI/G
SC-17020-S	9/29/1998	RADIUM-226	1.43	0.34	PCI/G
SC-17021-C	9/29/1998	RADIUM-226	1.6	0.37	PCI/G
SC-17022-S	9/29/1998	RADIUM-226	1.62	0.25	PCI/G
SC-17023-S	9/29/1998	RADIUM-226	1.35	0.33	PCI/G
SC-17024-S	9/29/1998	RADIUM-226	1.49	0.21	PCI/G
SC-17025-S	9/29/1998	RADIUM-226	1.39	0.25	PCI/G
SC-17101-S	9/29/1998	RADIUM-226	1.11	0.42	PCI/G
SC-17102-S	9/29/1998	RADIUM-226	1.31	0.27	PCI/G
SC-17103-S	9/29/1998	RADIUM-226	1.44	0.46	PCI/G
SC-17104-S	9/29/1998	RADIUM-226	1.3	0.26	PCI/G
SC-17105-S	9/29/1998	RADIUM-226	1.25	0.36	PCI/G
SC-17106-S	9/29/1998	RADIUM-226	1.15	0.28	PCI/G
SC-17107-S	9/29/1998	RADIUM-226	1.39	0.29	PCI/G
SC-17108-S	9/29/1998	RADIUM-226	1.34	0.28	PCI/G
SC-17109-S	9/29/1998	RADIUM-226	1.51	0.35	PCI/G
SC-17110-S	9/29/1998	RADIUM-226	1.42	0.24	PCI/G
SC-17111-S	9/29/1998	RADIUM-226	1.77	0.26	PCI/G
SC-17112-S	9/29/1998	RADIUM-226	1.5	0.24	PCI/G
SC-17113-S	9/29/1998	RADIUM-226	1.21	0.42	PCI/G
SC-17114-S	9/29/1998	RADIUM-226	1.39	0.26	PCI/G
SC-17115-S	9/29/1998	RADIUM-226	1.27	0.44	PCI/G
SC-17116-S	9/29/1998	RADIUM-226	1.19	0.29	PCI/G
SC-17117-S	9/29/1998	RADIUM-226	1.52	0.45	PCI/G
SC-17118-S	9/29/1998	RADIUM-226	1.28	0.24	PCI/G
SC-17119-S	9/29/1998	RADIUM-226	1.44	0.36	PCI/G
SC-17120-S	9/29/1998	RADIUM-226	1.34	0.3	PCI/G
SC-17121-S	9/29/1998	RADIUM-226	1.5	0.29	PCI/G
SC-17122-S	9/29/1998	RADIUM-226	1.5	0.28	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-17123-S	9/29/1998	RADIUM-226	1.33	0.28	PCI/G
SC-17124-S	9/29/1998	RADIUM-226	1.45	0.28	PCI/G
SC-17201-S	9/29/1998	RADIUM-226	1.15	0.3	PCI/G
SC-17202-S	9/29/1998	RADIUM-226	1.56	0.24	PCI/G
SC-17203-C	9/29/1998	RADIUM-226	1.35	0.39	PCI/G
SC-17203-S	9/29/1998	RADIUM-226	1.44	0.33	PCI/G
SC-17204-S	9/29/1998	RADIUM-226	1.34	0.3	PCI/G
SC-17205-C	9/29/1998	RADIUM-226	1.29	0.27	PCI/G
SC-17205-S	9/29/1998	RADIUM-226	1.3	0.23	PCI/G
SC-17206-S	9/29/1998	RADIUM-226	1.4	0.29	PCI/G
SC-17207-S	9/29/1998	RADIUM-226	1.26	0.35	PCI/G
SC-17208-S	9/29/1998	RADIUM-226	1.43	0.29	PCI/G
SC-17209-S	9/29/1998	RADIUM-226	1.34	0.37	PCI/G
SC-17210-S	9/29/1998	RADIUM-226	1.58	0.27	PCI/G
SC-17211-S	9/29/1998	RADIUM-226	1.22	0.33	PCI/G
SC-17212-S	9/29/1998	RADIUM-226	1.31	0.39	PCI/G
SC-17213-S	9/29/1998	RADIUM-226	1.35	0.2	PCI/G
SC-17214-C	9/29/1998	RADIUM-226	1.26	0.38	PCI/G
SC-17214-S	9/29/1998	RADIUM-226	1.3	0.28	PCI/G
SC-17215-S	9/29/1998	RADIUM-226	1.29	0.4	PCI/G
SC-17216-S	9/29/1998	RADIUM-226	1.39	0.28	PCI/G
SC-17217-S	9/29/1998	RADIUM-226	1.45	0.36	PCI/G
SC-17218-S	9/29/1998	RADIUM-226	1.11	0.27	PCI/G
SC-17219-S	9/29/1998	RADIUM-226	1.47	0.33	PCI/G
SC-17220-S	9/29/1998	RADIUM-226	1.2	0.28	PCI/G
SC-17221-C	9/29/1998	RADIUM-226	1.13	0.3	PCI/G
SC-17221-S	9/29/1998	RADIUM-226	1	0.3	PCI/G
SC-17222-S	9/29/1998	RADIUM-226	1.2	0.29	PCI/G
SC-17223-S	9/29/1998	RADIUM-226	1.53	0.29	PCI/G
SC-17224-S	9/29/1998	RADIUM-226	1.34	0.34	PCI/G
SC-17225-S	9/29/1998	RADIUM-226	1.41	0.28	PCI/G
SC-17226-S	9/29/1998	RADIUM-226	1.19	0.39	PCI/G
SC-17227-S	9/29/1998	RADIUM-226	1.27	0.26	PCI/G
SC-17228-S	9/29/1998	RADIUM-226	1.13	0.42	PCI/G
SC-17301-S	9/29/1998	RADIUM-226	1.56	0.25	PCI/G
SC-17302-S	9/30/1998	RADIUM-226	1.27	0.43	PCI/G
SC-17303-S	9/30/1998	RADIUM-226	1.37	0.29	PCI/G
SC-17304-S	9/30/1998	RADIUM-226	1.34	0.46	PCI/G
SC-17305-S	9/30/1998	RADIUM-226	1.53	0.26	PCI/G
SC-17306-S	9/30/1998	RADIUM-226	1.06	0.32	PCI/G
SC-17307-S	9/30/1998	RADIUM-226	0.99	0.3	PCI/G
SC-17308-S	9/29/1998	RADIUM-226	1.45	0.33	PCI/G
SC-17309-S	9/30/1998	RADIUM-226	1.41	0.31	PCI/G
SC-17310-S	9/30/1998	RADIUM-226	1.47	0.29	PCI/G
SC-17311-S	9/30/1998	RADIUM-226	1.23	0.34	PCI/G
SC-17312-S	9/30/1998	RADIUM-226	0.85	0.3	PCI/G
SC-17313-S	9/30/1998	RADIUM-226	1.15	0.27	PCI/G
SC-17314-S	9/30/1998	RADIUM-226	1.09	0.28	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-17315-S	9/30/1998	RADIUM-226	1.44	0.33	PCI/G
SC-17316-S	9/30/1998	RADIUM-226	1.32	0.47	PCI/G
SC-17317-S	9/30/1998	RADIUM-226	1.44	0.26	PCI/G
SC-17318-S	9/30/1998	RADIUM-226	1.22	0.39	PCI/G
SC-17319-S	10/16/1998	RADIUM-226	1.12	0.22	PCI/G
SC-17320-S	10/16/1998	RADIUM-226	1.08	0.23	PCI/G
SC-17321-S	10/16/1998	RADIUM-226	0.99	0.23	PCI/G
SC-17402-S	9/30/1998	RADIUM-226	1.39	0.31	PCI/G
SC-17403-S	9/30/1998	RADIUM-226	1.33	0.38	PCI/G
SC-17404-S	9/30/1998	RADIUM-226	1.49	0.24	PCI/G
SC-17405-S	9/30/1998	RADIUM-226	1.49	0.35	PCI/G
SC-17407-S	9/30/1998	RADIUM-226	1.64	0.32	PCI/G
SC-17408-S	9/30/1998	RADIUM-226	1.3	0.36	PCI/G
SC-17409-S	9/30/1998	RADIUM-226	1.66	0.31	PCI/G
SC-17410-S	9/30/1998	RADIUM-226	1.22	0.29	PCI/G
SC-17411-S	9/30/1998	RADIUM-226	1.88	0.29	PCI/G
SC-17412-S	9/30/1998	RADIUM-226	1.34	0.37	PCI/G
SC-17413-S	9/30/1998	RADIUM-226	1.66	0.26	PCI/G
SC-17414-S	9/30/1998	RADIUM-226	1.32	0.39	PCI/G
SC-17416-S	9/30/1998	RADIUM-226	1.78	0.31	PCI/G
SC-17417-S	9/30/1998	RADIUM-226	1.38	0.3	PCI/G
SC-17418-S	9/30/1998	RADIUM-226	1.45	0.33	PCI/G
SC-17419-S	9/30/1998	RADIUM-226	1.5	0.31	PCI/G
SC-17420-S	9/30/1998	RADIUM-226	1.59	0.27	PCI/G
SC-17421-S	9/30/1998	RADIUM-226	1.3	0.4	PCI/G
SC-17422-S	9/30/1998	RADIUM-226	1.36	0.3	PCI/G
SC-17423-S	9/30/1998	RADIUM-226	1.24	0.35	PCI/G
SC-17501-C	9/30/1998	RADIUM-226	1.26	0.36	PCI/G
SC-17502-S	9/30/1998	RADIUM-226	1.21	0.36	PCI/G
SC-17503-S	9/30/1998	RADIUM-226	1.21	0.23	PCI/G
SC-17504-S	9/30/1998	RADIUM-226	1.58	0.28	PCI/G
SC-17506-S	9/30/1998	RADIUM-226	1.53	0.27	PCI/G
SC-17507-S	9/30/1998	RADIUM-226	1.33	0.37	PCI/G
SC-17508-S	9/30/1998	RADIUM-226	1.49	0.32	PCI/G
SC-17509-C	9/30/1998	RADIUM-226	1.17	0.27	PCI/G
SC-17510-S	9/30/1998	RADIUM-226	1.45	0.24	PCI/G
SC-17511-S	9/30/1998	RADIUM-226	1.44	0.47	PCI/G
SC-17512-S	9/30/1998	RADIUM-226	1.47	0.3	PCI/G
SC-17514-S	9/30/1998	RADIUM-226	1.19	0.34	PCI/G
SC-17515-S	9/30/1998	RADIUM-226	1.51	0.26	PCI/G
SC-17516-S	9/30/1998	RADIUM-226	1.46	0.36	PCI/G
SC-17518-S	9/30/1998	RADIUM-226	1.37	0.22	PCI/G
SC-17519-S	9/30/1998	RADIUM-226	1.27	0.33	PCI/G
SC-17520-S	9/30/1998	RADIUM-226	1.2	0.28	PCI/G
SC-17523-S	9/30/1998	RADIUM-226	1.66	0.33	PCI/G
SC-17524-S	9/30/1998	RADIUM-226	0.99	0.22	PCI/G
SC-17601-S	10/1/1998	RADIUM-226	1.43	0.39	PCI/G
SC-17602-S	10/1/1998	RADIUM-226	1.49	0.28	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-17603-S	10/1/1998	RADIUM-226	1.64	0.37	PCI/G
SC-17604-S	10/1/1998	RADIUM-226	1.52	0.3	PCI/G
SC-17605-S	10/1/1998	RADIUM-226	1.46	0.45	PCI/G
SC-17606-S	10/1/1998	RADIUM-226	1.42	0.26	PCI/G
SC-17607-S	10/1/1998	RADIUM-226	1.56	0.45	PCI/G
SC-17608-S	10/1/1998	RADIUM-226	1.5	0.29	PCI/G
SC-17609-S	10/1/1998	RADIUM-226	1.33	0.43	PCI/G
SC-17610-S	10/1/1998	RADIUM-226	1.54	0.25	PCI/G
SC-17611-S	10/1/1998	RADIUM-226	1.26	0.45	PCI/G
SC-17612-S	10/1/1998	RADIUM-226	1.58	0.26	PCI/G
SC-17613-S	10/1/1998	RADIUM-226	1.54	0.4	PCI/G
SC-17614-S	10/1/1998	RADIUM-226	1.57	0.33	PCI/G
SC-17615-S	10/1/1998	RADIUM-226	1.51	0.35	PCI/G
SC-17616-S	10/1/1998	RADIUM-226	1.57	0.28	PCI/G
SC-17617-S	10/1/1998	RADIUM-226	1.31	0.38	PCI/G
SC-17618-S	10/1/1998	RADIUM-226	1.52	0.3	PCI/G
SC-17619-S	10/1/1998	RADIUM-226	1.52	0.47	PCI/G
SC-17620-S	10/1/1998	RADIUM-226	1.58	0.32	PCI/G
SC-17701-S	9/30/1998	RADIUM-226	1.19	0.24	PCI/G
SC-17702-S	10/1/1998	RADIUM-226	1.31	0.25	PCI/G
SC-17703-S	10/1/1998	RADIUM-226	1.41	0.31	PCI/G
SC-17704-S	10/16/1998	RADIUM-226	0.99	0.36	PCI/G
SC-17705-S	10/1/1998	RADIUM-226	1.6	0.33	PCI/G
SC-17706-S	10/1/1998	RADIUM-226	1.34	0.25	PCI/G
SC-17707-S	10/1/1998	RADIUM-226	1.24	0.42	PCI/G
SC-17708-S	10/16/1998	RADIUM-226	1.21	0.3	PCI/G
SC-17709-S	10/1/1998	RADIUM-226	1.08	0.25	PCI/G
SC-17710-S	10/1/1998	RADIUM-226	1.16	0.36	PCI/G
SC-17711-S	10/1/1998	RADIUM-226	1.6	0.29	PCI/G
SC-17712-S	10/16/1998	RADIUM-226	1.34	0.39	PCI/G
SC-17713-S	10/1/1998	RADIUM-226	0.96	0.41	PCI/G
SC-17714-S	10/1/1998	RADIUM-226	1.49	0.25	PCI/G
SC-17715-S	10/1/1998	RADIUM-226	1.26	0.41	PCI/G
SC-17716-S	10/16/1998	RADIUM-226	1.34	0.27	PCI/G
SC-17717-S	10/1/1998	RADIUM-226	1.16	0.26	PCI/G
SC-17718-S	10/1/1998	RADIUM-226	1.38	0.22	PCI/G
SC-17719-S	10/16/1998	RADIUM-226	1.01	0.31	PCI/G
SC-17720-S	10/16/1998	RADIUM-226	1.33	0.27	PCI/G
SC-17801-S	10/16/1998	RADIUM-226	1.16	0.27	PCI/G
SC-17802-S	10/16/1998	RADIUM-226	0.91	0.29	PCI/G
SC-17803-C	10/16/1998	RADIUM-226	1.36	0.3	PCI/G
SC-17803-S	10/16/1998	RADIUM-226	0.95	0.33	PCI/G
SC-17804-S	10/16/1998	RADIUM-226	1.1	0.26	PCI/G
SC-17805-S	10/16/1998	RADIUM-226	1.01	0.35	PCI/G
SC-17806-C	10/16/1998	RADIUM-226	1.46	0.25	PCI/G
SC-17806-S	10/16/1998	RADIUM-226	0.87	0.34	PCI/G
SC-17807-S	10/16/1998	RADIUM-226	1.12	0.3	PCI/G
SC-17808-S	10/16/1998	RADIUM-226	0.98	0.33	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-17809-S	10/16/1998	RADIUM-226	0.8	0.25	PCI/G
SC-17810-S	10/16/1998	RADIUM-226	1.26	0.29	PCI/G
SC-17811-S	10/16/1998	RADIUM-226	1	0.32	PCI/G
SC-17812-C	10/16/1998	RADIUM-226	1.36	0.34	PCI/G
SC-17812-S	10/16/1998	RADIUM-226	0.94	0.28	PCI/G
SC-17813-S	10/16/1998	RADIUM-226	1.19	0.34	PCI/G
SC-17814-S	10/16/1998	RADIUM-226	1.06	0.37	PCI/G
SC-17815-S	10/16/1998	RADIUM-226	1.15	0.31	PCI/G
SC-17816-S	10/16/1998	RADIUM-226	1.25	0.42	PCI/G
SC-17817-S	10/16/1998	RADIUM-226	1.05	0.24	PCI/G
SC-17818-C	10/16/1998	RADIUM-226	1.26	0.34	PCI/G
SC-17818-S	10/16/1998	RADIUM-226	1.06	0.27	PCI/G
SC-17819-S	10/16/1998	RADIUM-226	0.94	0.35	PCI/G
SC-17820-S	10/16/1998	RADIUM-226	1.1	0.22	PCI/G
SC-17821-S	10/16/1998	RADIUM-226	1.21	0.36	PCI/G
SC-17822-S	10/16/1998	RADIUM-226	1.41	0.28	PCI/G
SC-17901-S	10/23/1998	RADIUM-226	1.25	0.38	PCI/G
SC-17902-S	10/23/1998	RADIUM-226	1.5	0.27	PCI/G
SC-17903-S	10/23/1998	RADIUM-226	1.44	0.33	PCI/G
SC-17904-S	10/23/1998	RADIUM-226	0.66	0.27	PCI/G
SC-17905-S	10/23/1998	RADIUM-226	1.36	0.36	PCI/G
SC-17906-S	10/23/1998	RADIUM-226	1.25	0.29	PCI/G
SC-17907-S	10/23/1998	RADIUM-226	1.37	0.29	PCI/G
SC-17908-S	10/23/1998	RADIUM-226	1.4	0.32	PCI/G
SC-17909-S	10/23/1998	RADIUM-226	1.15	0.36	PCI/G
SC-17910-S	10/23/1998	RADIUM-226	1.61	0.22	PCI/G
SC-17911-S	10/23/1998	RADIUM-226	0.425	0.85	PCI/G
SC-17912-S	10/23/1998	RADIUM-226	1.38	0.27	PCI/G
SC-17913-S	10/23/1998	RADIUM-226	1.59	0.36	PCI/G
SC-17914-S	10/23/1998	RADIUM-226	1.28	0.28	PCI/G
SC-17915-S	10/23/1998	RADIUM-226	1.67	0.29	PCI/G
SC-17916-S	10/23/1998	RADIUM-226	1.27	0.29	PCI/G
SC-17917-S	10/23/1998	RADIUM-226	1.24	0.36	PCI/G
SC-17918-S	10/23/1998	RADIUM-226	1.31	0.24	PCI/G
SC-17919-S	10/23/1998	RADIUM-226	1.4	0.41	PCI/G
SC-17920-S	10/23/1998	RADIUM-226	1.45	0.22	PCI/G
SC-18001-S	10/1/1998	RADIUM-226	0.84	0.38	PCI/G
SC-18002-S	10/27/1998	RADIUM-226	1.36	0.26	PCI/G
SC-18003-S	10/27/1998	RADIUM-226	1.25	0.36	PCI/G
SC-18004-S	10/27/1998	RADIUM-226	1.48	0.3	PCI/G
SC-18005-S	10/27/1998	RADIUM-226	0.92	0.37	PCI/G
SC-18006-S	10/27/1998	RADIUM-226	1.01	0.31	PCI/G
SC-18007-S	10/27/1998	RADIUM-226	1.05	0.32	PCI/G
SC-18008-S	10/27/1998	RADIUM-226	1.27	0.26	PCI/G
SC-18012-S	10/27/1998	RADIUM-226	1.27	0.3	PCI/G
SC-18013-S	10/27/1998	RADIUM-226	1.28	0.27	PCI/G
SC-18014-S	10/27/1998	RADIUM-226	1.18	0.36	PCI/G
SC-18015-S	10/27/1998	RADIUM-226	1.41	0.24	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-18016-S	10/27/1998	RADIUM-226	1.31	0.33	PCI/G
SC-18019-S	10/27/1998	RADIUM-226	1.26	0.29	PCI/G
SC-18020-S	10/27/1998	RADIUM-226	1.34	0.34	PCI/G
SC-18021-S	10/27/1998	RADIUM-226	1.27	0.24	PCI/G
SC-18022-S	10/27/1998	RADIUM-226	1.15	0.32	PCI/G
SC-18023-S	10/27/1998	RADIUM-226	1.22	0.22	PCI/G
SC-18201-S	10/27/1998	RADIUM-226	1.32	0.37	PCI/G
SC-18202-S	10/27/1998	RADIUM-226	1.38	0.23	PCI/G
SC-18203-S	10/27/1998	RADIUM-226	1.36	0.4	PCI/G
SC-18204-S	10/27/1998	RADIUM-226	1.09	0.33	PCI/G
SC-18205-S	10/27/1998	RADIUM-226	1.11	0.31	PCI/G
SC-18206-S	10/27/1998	RADIUM-226	1.1	0.27	PCI/G
SC-18207-S	10/27/1998	RADIUM-226	1.25	0.4	PCI/G
SC-18208-S	10/27/1998	RADIUM-226	1.32	0.33	PCI/G
SC-18209-S	10/27/1998	RADIUM-226	1.55	0.34	PCI/G
SC-18210-S	10/27/1998	RADIUM-226	1.65	0.23	PCI/G
SC-18211-S	10/27/1998	RADIUM-226	1.22	0.38	PCI/G
SC-18212-S	10/27/1998	RADIUM-226	1.3	0.23	PCI/G
SC-18213-S	10/27/1998	RADIUM-226	0.92	0.39	PCI/G
SC-18214-S	10/27/1998	RADIUM-226	1.33	0.36	PCI/G
SC-18215-S	10/27/1998	RADIUM-226	1.22	0.49	PCI/G
SC-18216-S	10/27/1998	RADIUM-226	1.36	0.32	PCI/G
SC-18217-S	10/27/1998	RADIUM-226	1.36	0.41	PCI/G
SC-18218-S	10/27/1998	RADIUM-226	1.09	0.27	PCI/G
SC-18219-S	10/27/1998	RADIUM-226	1.34	0.3	PCI/G
SC-18220-S	3/3/1998	RADIUM-226	1.39	0.38	PCI/G
SC-18301-S	10/23/1998	RADIUM-226	1.07	0.36	PCI/G
SC-18302-S	10/23/1998	RADIUM-226	1.05	0.45	PCI/G
SC-18303-S	10/23/1998	RADIUM-226	1.11	0.24	PCI/G
SC-18304-S	10/23/1998	RADIUM-226	1.03	0.33	PCI/G
SC-18305-S	10/23/1998	RADIUM-226	1.47	0.34	PCI/G
SC-18306-S	10/23/1998	RADIUM-226	1.32	0.46	PCI/G
SC-18307-S	10/23/1998	RADIUM-226	0.97	0.26	PCI/G
SC-18308-S	10/23/1998	RADIUM-226	1.23	0.41	PCI/G
SC-18309-S	10/23/1998	RADIUM-226	1.32	0.26	PCI/G
SC-18310-S	10/23/1998	RADIUM-226	1.42	0.44	PCI/G
SC-18311-S	10/23/1998	RADIUM-226	1.24	0.29	PCI/G
SC-18312-S	10/23/1998	RADIUM-226	1.27	0.34	PCI/G
SC-18313-S	10/23/1998	RADIUM-226	1.05	0.27	PCI/G
SC-18314-S	10/23/1998	RADIUM-226	1.1	0.39	PCI/G
SC-18315-S	10/23/1998	RADIUM-226	1.18	0.27	PCI/G
SC-18316-S	10/23/1998	RADIUM-226	1.42	0.37	PCI/G
SC-18317-S	10/23/1998	RADIUM-226	1.31	0.32	PCI/G
SC-18318-S	10/23/1998	RADIUM-226	1.41	0.28	PCI/G
SC-18319-S	10/23/1998	RADIUM-226	0.96	0.35	PCI/G
SC-18320-S	10/27/1998	RADIUM-226	1.36	0.29	PCI/G
SC-18321-S	10/23/1998	RADIUM-226	1.49	0.26	PCI/G
SC-18322-S	10/23/1998	RADIUM-226	1.04	0.23	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-18323-S	10/23/1998	RADIUM-226	1.5	0.25	PCI/G
SC-18324-S	4/3/1998	RADIUM-226	1.16	0.31	PCI/G
SC-18325-S	4/3/1998	RADIUM-226	1.2	0.24	PCI/G
SC-18326-S	4/3/1998	RADIUM-226	1.66	0.34	PCI/G
SC-18401-S	10/27/1998	RADIUM-226	1.41	0.21	PCI/G
SC-18402-S	3/3/1998	RADIUM-226	1.53	0.25	PCI/G
SC-18403-S	3/3/1998	RADIUM-226	1.33	0.3	PCI/G
SC-18404-S	4/3/1998	RADIUM-226	1.22	0.27	PCI/G
SC-18405-S	4/3/1998	RADIUM-226	1.01	0.35	PCI/G
SC-18406-S	4/3/1998	RADIUM-226	1.48	0.28	PCI/G
SC-18407-S	3/3/1998	RADIUM-226	1.58	0.26	PCI/G
SC-18408-S	3/3/1998	RADIUM-226	1.52	0.3	PCI/G
SC-18409-S	3/3/1998	RADIUM-226	1.3	0.3	PCI/G
SC-18410-S	4/3/1998	RADIUM-226	1.41	0.27	PCI/G
SC-18411-S	4/3/1998	RADIUM-226	1.24	0.24	PCI/G
SC-18412-S	4/3/1998	RADIUM-226	1.05	0.25	PCI/G
SC-18413-S	3/3/1998	RADIUM-226	1.15	0.34	PCI/G
SC-18414-S	3/3/1998	RADIUM-226	1.13	0.32	PCI/G
SC-18415-S	3/3/1998	RADIUM-226	1.31	0.45	PCI/G
SC-18416-S	3/3/1998	RADIUM-226	1.09	0.27	PCI/G
SC-18417-S	4/3/1998	RADIUM-226	1.26	0.31	PCI/G
SC-18418-S	4/3/1998	RADIUM-226	1.53	0.38	PCI/G
SC-18419-S	3/3/1998	RADIUM-226	1.9	0.36	PCI/G
SC-18420-S	3/3/1998	RADIUM-226	1.45	0.29	PCI/G
SC-18421-S	3/3/1998	RADIUM-226	1.29	0.35	PCI/G
SC-18422-S	3/3/1998	RADIUM-226	1.61	0.3	PCI/G
SC-18423-S	4/1/1998	RADIUM-226	1.12	0.29	PCI/G
SC-18424-S	4/3/1998	RADIUM-226	1.65	0.24	PCI/G
SC-18502-S	10/27/1998	RADIUM-226	1.19	0.34	PCI/G
SC-18503-S	3/3/1998	RADIUM-226	1.47	0.29	PCI/G
SC-18504-S	3/3/1998	RADIUM-226	1.41	0.3	PCI/G
SC-18509-S	3/3/1998	RADIUM-226	0.96	0.35	PCI/G
SC-18510-S	3/3/1998	RADIUM-226	1	0.24	PCI/G
SC-18516-S	4/1/1998	RADIUM-226	1.9	0.29	PCI/G
SC-18520-S	4/1/1998	RADIUM-226	1.62	0.36	PCI/G
SC-18521-S	4/1/1998	RADIUM-226	1.07	0.28	PCI/G
SC-18601-S	4/1/1998	RADIUM-226	1.65	0.36	PCI/G
SC-18602-S	4/1/1998	RADIUM-226	1.28	0.32	PCI/G
SC-18603-S	4/1/1998	RADIUM-226	1.17	0.26	PCI/G
SC-18604-S	4/1/1998	RADIUM-226	1.26	0.32	PCI/G
SC-18605-S	4/1/1998	RADIUM-226	1.21	0.23	PCI/G
SC-18606-S	4/3/1998	RADIUM-226	1.64	0.42	PCI/G
SC-18607-S	4/1/1998	RADIUM-226	1.06	0.42	PCI/G
SC-18608-S	4/1/1998	RADIUM-226	1.05	0.26	PCI/G
SC-18609-S	4/1/1998	RADIUM-226	0.86	0.33	PCI/G
SC-18610-S	4/1/1998	RADIUM-226	1.01	0.24	PCI/G
SC-18611-S	4/1/1998	RADIUM-226	1.43	0.38	PCI/G
SC-18612-S	4/3/1998	RADIUM-226	1.37	0.26	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-18613-S	4/1/1998	RADIUM-226	1.17	0.29	PCI/G
SC-18614-S	4/1/1998	RADIUM-226	0.91	0.26	PCI/G
SC-18615-S	4/1/1998	RADIUM-226	0.84	0.28	PCI/G
SC-18616-S	4/1/1998	RADIUM-226	0.79	0.4	PCI/G
SC-18617-S	4/1/1998	RADIUM-226	1.37	0.21	PCI/G
SC-18618-S	4/3/1998	RADIUM-226	1.26	0.27	PCI/G
SC-18619-S	4/1/1998	RADIUM-226	1.69	0.38	PCI/G
SC-18620-S	4/1/1998	RADIUM-226	1.59	0.17	PCI/G
SC-18621-S	3/16/1998	RADIUM-226	1.39	0.35	PCI/G
SC-18622-S	3/16/1998	RADIUM-226	1.41	0.26	PCI/G
SC-18702-S	3/16/1998	RADIUM-226	1.29	0.36	PCI/G
SC-18703-S	3/16/1998	RADIUM-226	1.09	0.25	PCI/G
SC-18704-S	3/16/1998	RADIUM-226	1.35	0.28	PCI/G
SC-18705-S	3/16/1998	RADIUM-226	1.6	0.29	PCI/G
SC-18706-C	3/16/1998	RADIUM-226	1.18	0.42	PCI/G
SC-18706-S	3/16/1998	RADIUM-226	1.19	0.41	PCI/G
SC-18805-S	4/1/1998	RADIUM-226	1.41	0.22	PCI/G
SC-18809-S	4/1/1998	RADIUM-226	1.39	0.37	PCI/G
SC-18810-S	4/1/1998	RADIUM-226	1.15	0.24	PCI/G
SC-18811-S	4/1/1998	RADIUM-226	0.73	0.35	PCI/G
SC-18812-S	4/1/1998	RADIUM-226	0.81	0.26	PCI/G
SC-18813-S	4/1/1998	RADIUM-226	1.09	0.27	PCI/G
SC-18817-S	3/16/1998	RADIUM-226	1.46	0.3	PCI/G
SC-18818-S	3/16/1998	RADIUM-226	1.51	0.39	PCI/G
SC-18819-S	3/16/1998	RADIUM-226	1.26	0.28	PCI/G
SC-18820-S	3/16/1998	RADIUM-226	0.96	0.23	PCI/G
SC-18821-S	3/16/1998	RADIUM-226	0.97	0.36	PCI/G
SC-39601-U	3/10/2000	RADIUM-226	0.8	0.22	PCI/G
SC-39602-U	3/10/2000	RADIUM-226	0.82	0.27	PCI/G
SC-39603-U	3/10/2000	RADIUM-226	0.72	0.26	PCI/G
SC-39604-U	3/10/2000	RADIUM-226	0.79	0.26	PCI/G
SC-39605-U	3/10/2000	RADIUM-226	0.67	0.22	PCI/G
SC-39606-U	3/10/2000	RADIUM-226	0.62	0.25	PCI/G
SC-39607-U	3/10/2000	RADIUM-226	0.81	0.24	PCI/G
SC-39608-U	3/10/2000	RADIUM-226	0.68	0.34	PCI/G
SC-39609-U	3/10/2000	RADIUM-226	0.92	0.29	PCI/G
SC-39610-U	3/10/2000	RADIUM-226	0.53	0.21	PCI/G
SC-39611-U	3/10/2000	RADIUM-226	0.73	0.26	PCI/G
SC-39612-U	3/10/2000	RADIUM-226	0.67	0.27	PCI/G
SC-17002-S	9/29/1998	RADIUM-228	1.19	0.5	PCI/G
SC-17003-S	9/29/1998	RADIUM-228	1.22	0.45	PCI/G
SC-17004-S	9/29/1998	RADIUM-228	1.23	0.52	PCI/G
SC-17005-S	9/29/1998	RADIUM-228	1.29	0.32	PCI/G
SC-17007-S	9/29/1998	RADIUM-228	1.29	0.58	PCI/G
SC-17008-S	9/29/1998	RADIUM-228	1.17	0.41	PCI/G
SC-17009-S	9/29/1998	RADIUM-228	1.41	0.34	PCI/G
SC-17010-S	9/29/1998	RADIUM-228	1.34	0.49	PCI/G
SC-17011-C	9/29/1998	RADIUM-228	1.49	0.48	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-17012-S	9/29/1998	RADIUM-228	0.565	1 13	PCI/G
SC-17013-S	9/29/1998	RADIUM-228	1.04	0 46	PCI/G
SC-17014-S	9/29/1998	RADIUM-228	0.585	1.17	PCI/G
SC-17015-S	9/29/1998	RADIUM-228	1.34	0 36	PCI/G
SC-17017-S	9/29/1998	RADIUM-228	1.58	0 56	PCI/G
SC-17018-S	9/29/1998	RADIUM-228	1.22	0.38	PCI/G
SC-17018-S-RS	10/15/1998	RADIUM-228	1.24	0.56	PCI/G
SC-17019-S	9/29/1998	RADIUM-228	1.08	0.44	PCI/G
SC-17020-S	9/29/1998	RADIUM-228	1.25	0 45	PCI/G
SC-17021-C	9/29/1998	RADIUM-228	1.25	0.54	PCI/G
SC-17022-S	9/29/1998	RADIUM-228	1.24	0 3	PCI/G
SC-17023-S	9/29/1998	RADIUM-228	1.45	0 57	PCI/G
SC-17024-S	9/29/1998	RADIUM-228	1 37	0.41	PCI/G
SC-17025-S	9/29/1998	RADIUM-228	0.96	0.36	PCI/G
SC-17101-S	9/29/1998	RADIUM-228	1 14	0 66	PCI/G
SC-17102-S	9/29/1998	RADIUM-228	1 31	0 28	PCI/G
SC-17103-S	9/29/1998	RADIUM-228	0.625	1 25	PCI/G
SC-17104-S	9/29/1998	RADIUM-228	1 25	0.46	PCI/G
SC-17105-S	9/29/1998	RADIUM-228	1 31	0 36	PCI/G
SC-17106-S	9/29/1998	RADIUM-228	1.26	0 45	PCI/G
SC-17107-S	9/29/1998	RADIUM-228	1	0 49	PCI/G
SC-17108-S	9/29/1998	RADIUM-228	1 12	0 5	PCI/G
SC-17109-S	9/29/1998	RADIUM-228	1.36	0.7	PCI/G
SC-17110-S	9/29/1998	RADIUM-228	1 21	0 33	PCI/G
SC-17111-S	9/29/1998	RADIUM-228	1 27	0 53	PCI/G
SC-17112-S	9/29/1998	RADIUM-228	1 25	0 32	PCI/G
SC-17113-S	9/29/1998	RADIUM-228	1 63	0 5	PCI/G
SC-17114-S	9/29/1998	RADIUM-228	1.44	0 33	PCI/G
SC-17115-S	9/29/1998	RADIUM-228	1 29	0.48	PCI/G
SC-17116-S	9/29/1998	RADIUM-228	1 01	0 49	PCI/G
SC-17117-S	9/29/1998	RADIUM-228	1 45	0 35	PCI/G
SC-17118-S	9/29/1998	RADIUM-228	1 27	0 33	PCI/G
SC-17119-S	9/29/1998	RADIUM-228	1 34	0 17	PCI/G
SC-17120-S	9/29/1998	RADIUM-228	1.28	0 3	PCI/G
SC-17121-S	9/29/1998	RADIUM-228	1 37	0 61	PCI/G
SC-17122-S	9/29/1998	RADIUM-228	1.24	0 37	PCI/G
SC-17123-S	9/29/1998	RADIUM-228	0 61	1.22	PCI/G
SC-17124-S	9/29/1998	RADIUM-228	1 26	0.42	PCI/G
SC-17201-S	9/29/1998	RADIUM-228	1.08	0.57	PCI/G
SC-17202-S	9/29/1998	RADIUM-228	1 15	0 41	PCI/G
SC-17203-C	9/29/1998	RADIUM-228	1.21	0.42	PCI/G
SC-17203-S	9/29/1998	RADIUM-228	1 21	0.46	PCI/G
SC-17204-S	9/29/1998	RADIUM-228	1 37	0.66	PCI/G
SC-17205-C	9/29/1998	RADIUM-228	1 16	0.36	PCI/G
SC-17205-S	9/29/1998	RADIUM-228	1 58	0.37	PCI/G
SC-17206-S	9/29/1998	RADIUM-228	1.22	0 36	PCI/G
SC-17207-S	9/29/1998	RADIUM-228	1.22	0.27	PCI/G
SC-17208-S	9/29/1998	RADIUM-228	1 04	0.47	PCI/G

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SC-17209-S	9/29/1998	RADIUM-228	1.17	0.53	PCI/G
SC-17210-S	9/29/1998	RADIUM-228	1.44	0.43	PCI/G
SC-17211-S	9/29/1998	RADIUM-228	1.42	0.36	PCI/G
SC-17212-S	9/29/1998	RADIUM-228	0.585	1.17	PCI/G
SC-17213-S	9/29/1998	RADIUM-228	1.21	0.38	PCI/G
SC-17214-C	9/29/1998	RADIUM-228	0.9	0.48	PCI/G
SC-17214-S	9/29/1998	RADIUM-228	1.33	0.43	PCI/G
SC-17215-S	9/29/1998	RADIUM-228	1.2	0.49	PCI/G
SC-17216-S	9/29/1998	RADIUM-228	1.06	0.45	PCI/G
SC-17217-S	9/29/1998	RADIUM-228	1.08	0.76	PCI/G
SC-17218-S	9/29/1998	RADIUM-228	0.82	0.38	PCI/G
SC-17219-S	9/29/1998	RADIUM-228	1.01	0.27	PCI/G
SC-17220-S	9/29/1998	RADIUM-228	0.94	0.35	PCI/G
SC-17221-C	9/29/1998	RADIUM-228	0.565	1.13	PCI/G
SC-17221-S	9/29/1998	RADIUM-228	1.44	0.39	PCI/G
SC-17222-S	9/29/1998	RADIUM-228	1.1	0.61	PCI/G
SC-17223-S	9/29/1998	RADIUM-228	1.28	0.32	PCI/G
SC-17224-S	9/29/1998	RADIUM-228	1.56	0.45	PCI/G
SC-17225-S	9/29/1998	RADIUM-228	1.16	0.25	PCI/G
SC-17226-S	9/29/1998	RADIUM-228	1.09	0.44	PCI/G
SC-17227-S	9/29/1998	RADIUM-228	1.34	0.4	PCI/G
SC-17228-S	9/29/1998	RADIUM-228	1.25	0.47	PCI/G
SC-17301-S	9/29/1998	RADIUM-228	1.36	0.37	PCI/G
SC-17302-S	9/30/1998	RADIUM-228	0.65	1.3	PCI/G
SC-17303-S	9/30/1998	RADIUM-228	1.09	0.39	PCI/G
SC-17304-S	9/30/1998	RADIUM-228	1.24	0.52	PCI/G
SC-17305-S	9/30/1998	RADIUM-228	1.5	0.39	PCI/G
SC-17306-S	9/30/1998	RADIUM-228	1.56	0.39	PCI/G
SC-17307-S	9/30/1998	RADIUM-228	1.55	0.29	PCI/G
SC-17308-S	9/29/1998	RADIUM-228	1.38	0.4	PCI/G
SC-17309-S	9/30/1998	RADIUM-228	1.04	0.42	PCI/G
SC-17310-S	9/30/1998	RADIUM-228	1.4	0.39	PCI/G
SC-17311-S	9/30/1998	RADIUM-228	0.66	1.32	PCI/G
SC-17312-S	9/30/1998	RADIUM-228	1.47	0.58	PCI/G
SC-17313-S	9/30/1998	RADIUM-228	1.31	0.42	PCI/G
SC-17314-S	9/30/1998	RADIUM-228	1.51	0.35	PCI/G
SC-17315-S	9/30/1998	RADIUM-228	1.26	0.44	PCI/G
SC-17316-S	9/30/1998	RADIUM-228	1.08	0.5	PCI/G
SC-17317-S	9/30/1998	RADIUM-228	1.29	0.42	PCI/G
SC-17318-S	9/30/1998	RADIUM-228	1.7	0.54	PCI/G
SC-17319-S	10/16/1998	RADIUM-228	1.26	0.45	PCI/G
SC-17320-S	10/16/1998	RADIUM-228	1.42	0.42	PCI/G
SC-17321-S	10/16/1998	RADIUM-228	1.38	0.36	PCI/G
SC-17402-S	9/30/1998	RADIUM-228	1.51	0.42	PCI/G
SC-17403-S	9/30/1998	RADIUM-228	0.565	1.13	PCI/G
SC-17404-S	9/30/1998	RADIUM-228	1.45	0.32	PCI/G
SC-17405-S	9/30/1998	RADIUM-228	1.41	0.64	PCI/G
SC-17407-S	9/30/1998	RADIUM-228	1.23	0.4	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-17408-S	9/30/1998	RADIUM-228	1.18	0.63	PCI/G
SC-17409-S	9/30/1998	RADIUM-228	1.15	0.42	PCI/G
SC-17410-S	9/30/1998	RADIUM-228	1.16	0.57	PCI/G
SC-17411-S	9/30/1998	RADIUM-228	1.39	0.47	PCI/G
SC-17412-S	9/30/1998	RADIUM-228	1.27	0.6	PCI/G
SC-17413-S	9/30/1998	RADIUM-228	1.34	0.32	PCI/G
SC-17414-S	9/30/1998	RADIUM-228	1.23	0.51	PCI/G
SC-17416-S	9/30/1998	RADIUM-228	1.31	0.4	PCI/G
SC-17417-S	9/30/1998	RADIUM-228	1.31	0.46	PCI/G
SC-17418-S	9/30/1998	RADIUM-228	1.55	0.46	PCI/G
SC-17419-S	9/30/1998	RADIUM-228	1.19	0.6	PCI/G
SC-17420-S	9/30/1998	RADIUM-228	1.39	0.4	PCI/G
SC-17421-S	9/30/1998	RADIUM-228	0.595	1.19	PCI/G
SC-17422-S	9/30/1998	RADIUM-228	1.48	0.42	PCI/G
SC-17423-S	9/30/1998	RADIUM-228	0.63	1.26	PCI/G
SC-17501-C	9/30/1998	RADIUM-228	1.15	0.4	PCI/G
SC-17502-S	9/30/1998	RADIUM-228	0.62	1.24	PCI/G
SC-17503-S	9/30/1998	RADIUM-228	1.09	0.39	PCI/G
SC-17504-S	9/30/1998	RADIUM-228	0.585	1.17	PCI/G
SC-17506-S	9/30/1998	RADIUM-228	1.07	0.36	PCI/G
SC-17507-S	9/30/1998	RADIUM-228	1.51	0.41	PCI/G
SC-17508-S	9/30/1998	RADIUM-228	1.11	0.41	PCI/G
SC-17509-C	9/30/1998	RADIUM-228	1.75	0.5	PCI/G
SC-17510-S	9/30/1998	RADIUM-228	1.27	0.45	PCI/G
SC-17511-S	9/30/1998	RADIUM-228	1.41	0.48	PCI/G
SC-17512-S	9/30/1998	RADIUM-228	1.45	0.36	PCI/G
SC-17514-S	9/30/1998	RADIUM-228	0.58	1.16	PCI/G
SC-17515-S	9/30/1998	RADIUM-228	1.27	0.41	PCI/G
SC-17516-S	9/30/1998	RADIUM-228	1.23	0.62	PCI/G
SC-17518-S	9/30/1998	RADIUM-228	1.51	0.36	PCI/G
SC-17519-S	9/30/1998	RADIUM-228	1.53	0.38	PCI/G
SC-17520-S	9/30/1998	RADIUM-228	1.2	0.37	PCI/G
SC-17523-S	9/30/1998	RADIUM-228	0.605	1.21	PCI/G
SC-17524-S	9/30/1998	RADIUM-228	1.28	0.37	PCI/G
SC-17601-S	10/1/1998	RADIUM-228	1.4	0.53	PCI/G
SC-17602-S	10/1/1998	RADIUM-228	1.58	0.48	PCI/G
SC-17603-S	10/1/1998	RADIUM-228	1.33	0.76	PCI/G
SC-17604-S	10/1/1998	RADIUM-228	1.6	0.29	PCI/G
SC-17605-S	10/1/1998	RADIUM-228	1.29	0.53	PCI/G
SC-17606-S	10/1/1998	RADIUM-228	1.36	0.43	PCI/G
SC-17607-S	10/1/1998	RADIUM-228	1.51	0.65	PCI/G
SC-17608-S	10/1/1998	RADIUM-228	1.31	0.48	PCI/G
SC-17609-S	10/1/1998	RADIUM-228	1.21	0.57	PCI/G
SC-17610-S	10/1/1998	RADIUM-228	1.24	0.46	PCI/G
SC-17611-S	10/1/1998	RADIUM-228	1.32	0.65	PCI/G
SC-17612-S	10/1/1998	RADIUM-228	1.23	0.43	PCI/G
SC-17613-S	10/1/1998	RADIUM-228	1.17	0.65	PCI/G
SC-17614-S	10/1/1998	RADIUM-228	1.42	0.43	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-17615-S	10/1/1998	RADIUM-228	0.57	1.14	PCI/G
SC-17616-S	10/1/1998	RADIUM-228	1.31	0.44	PCI/G
SC-17617-S	10/1/1998	RADIUM-228	1.3	0.47	PCI/G
SC-17618-S	10/1/1998	RADIUM-228	1.29	0.38	PCI/G
SC-17619-S	10/1/1998	RADIUM-228	1.29	0.59	PCI/G
SC-17620-S	10/1/1998	RADIUM-228	1.3	0.45	PCI/G
SC-17701-S	9/30/1998	RADIUM-228	1.22	0.42	PCI/G
SC-17702-S	10/1/1998	RADIUM-228	1.01	0.54	PCI/G
SC-17703-S	10/1/1998	RADIUM-228	1.32	0.41	PCI/G
SC-17704-S	10/16/1998	RADIUM-228	1.35	0.43	PCI/G
SC-17705-S	10/1/1998	RADIUM-228	1.28	0.58	PCI/G
SC-17706-S	10/1/1998	RADIUM-228	1.06	0.33	PCI/G
SC-17707-S	10/1/1998	RADIUM-228	1.27	0.27	PCI/G
SC-17708-S	10/16/1998	RADIUM-228	1.29	0.33	PCI/G
SC-17709-S	10/1/1998	RADIUM-228	1.13	0.36	PCI/G
SC-17710-S	10/1/1998	RADIUM-228	0.595	1.19	PCI/G
SC-17711-S	10/1/1998	RADIUM-228	1.3	0.36	PCI/G
SC-17712-S	10/16/1998	RADIUM-228	1.29	0.76	PCI/G
SC-17713-S	10/1/1998	RADIUM-228	1.04	0.47	PCI/G
SC-17714-S	10/1/1998	RADIUM-228	0.98	0.47	PCI/G
SC-17715-S	10/1/1998	RADIUM-228	1.07	0.58	PCI/G
SC-17716-S	10/16/1998	RADIUM-228	1.49	0.42	PCI/G
SC-17717-S	10/1/1998	RADIUM-228	1.19	0.35	PCI/G
SC-17718-S	10/1/1998	RADIUM-228	1.12	0.35	PCI/G
SC-17719-S	10/16/1998	RADIUM-228	1.56	0.44	PCI/G
SC-17720-S	10/16/1998	RADIUM-228	1.38	0.4	PCI/G
SC-17801-S	10/16/1998	RADIUM-228	1.44	0.37	PCI/G
SC-17802-S	10/16/1998	RADIUM-228	1.38	0.53	PCI/G
SC-17803-C	10/16/1998	RADIUM-228	1.22	0.42	PCI/G
SC-17803-S	10/16/1998	RADIUM-228	0.65	1.3	PCI/G
SC-17804-S	10/16/1998	RADIUM-228	1.32	0.31	PCI/G
SC-17805-S	10/16/1998	RADIUM-228	1.54	0.57	PCI/G
SC-17806-C	10/16/1998	RADIUM-228	1.32	0.35	PCI/G
SC-17806-S	10/16/1998	RADIUM-228	1.27	0.63	PCI/G
SC-17807-S	10/16/1998	RADIUM-228	1.5	0.42	PCI/G
SC-17808-S	10/16/1998	RADIUM-228	1.14	0.6	PCI/G
SC-17809-S	10/16/1998	RADIUM-228	1.48	0.33	PCI/G
SC-17810-S	10/16/1998	RADIUM-228	1.36	0.47	PCI/G
SC-17811-S	10/16/1998	RADIUM-228	1.26	0.53	PCI/G
SC-17812-C	10/16/1998	RADIUM-228	1.44	0.35	PCI/G
SC-17812-S	10/16/1998	RADIUM-228	1.21	0.58	PCI/G
SC-17813-S	10/16/1998	RADIUM-228	1.4	0.39	PCI/G
SC-17814-S	10/16/1998	RADIUM-228	1.41	0.53	PCI/G
SC-17815-S	10/16/1998	RADIUM-228	1.2	0.3	PCI/G
SC-17816-S	10/16/1998	RADIUM-228	1.1	0.55	PCI/G
SC-17817-S	10/16/1998	RADIUM-228	1.34	0.33	PCI/G
SC-17818-C	10/16/1998	RADIUM-228	1.63	0.4	PCI/G
SC-17818-S	10/16/1998	RADIUM-228	1.29	0.44	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-17819-S	10/16/1998	RADIUM-228	0.585	1.17	PCI/G
SC-17820-S	10/16/1998	RADIUM-228	1.49	0.48	PCI/G
SC-17821-S	10/16/1998	RADIUM-228	1.53	0.37	PCI/G
SC-17822-S	10/16/1998	RADIUM-228	1.15	0.38	PCI/G
SC-17901-S	10/23/1998	RADIUM-228	1.46	0.52	PCI/G
SC-17902-S	10/23/1998	RADIUM-228	1.07	0.41	PCI/G
SC-17903-S	10/23/1998	RADIUM-228	1.12	0.49	PCI/G
SC-17904-S	10/23/1998	RADIUM-228	0.52	0.31	PCI/G
SC-17905-S	10/23/1998	RADIUM-228	1.21	0.61	PCI/G
SC-17906-S	10/23/1998	RADIUM-228	1.16	0.46	PCI/G
SC-17907-S	10/23/1998	RADIUM-228	1.59	0.6	PCI/G
SC-17908-S	10/23/1998	RADIUM-228	1.39	0.41	PCI/G
SC-17909-S	10/23/1998	RADIUM-228	1.21	0.44	PCI/G
SC-17910-S	10/23/1998	RADIUM-228	1.56	0.44	PCI/G
SC-17911-S	10/23/1998	RADIUM-228	0.55	1.1	PCI/G
SC-17912-S	10/23/1998	RADIUM-228	1.23	0.37	PCI/G
SC-17913-S	10/23/1998	RADIUM-228	1.06	0.5	PCI/G
SC-17914-S	10/23/1998	RADIUM-228	1.19	0.39	PCI/G
SC-17915-S	10/23/1998	RADIUM-228	1.02	0.45	PCI/G
SC-17916-S	10/23/1998	RADIUM-228	1.2	0.42	PCI/G
SC-17917-S	10/23/1998	RADIUM-228	1.03	0.55	PCI/G
SC-17918-S	10/23/1998	RADIUM-228	1.18	0.32	PCI/G
SC-17919-S	10/23/1998	RADIUM-228	0.64	1.28	PCI/G
SC-17920-S	10/23/1998	RADIUM-228	1.2	0.41	PCI/G
SC-18001-S	10/1/1998	RADIUM-228	0.94	0.63	PCI/G
SC-18002-S	10/27/1998	RADIUM-228	1.2	0.38	PCI/G
SC-18003-S	10/27/1998	RADIUM-228	1.53	0.54	PCI/G
SC-18004-S	10/27/1998	RADIUM-228	1.28	0.36	PCI/G
SC-18005-S	10/27/1998	RADIUM-228	1.36	0.51	PCI/G
SC-18006-S	10/27/1998	RADIUM-228	1.08	0.38	PCI/G
SC-18007-S	10/27/1998	RADIUM-228	1.21	0.58	PCI/G
SC-18008-S	10/27/1998	RADIUM-228	1.25	0.34	PCI/G
SC-18012-S	10/27/1998	RADIUM-228	1.13	0.54	PCI/G
SC-18013-S	10/27/1998	RADIUM-228	1.4	0.36	PCI/G
SC-18014-S	10/27/1998	RADIUM-228	0.96	0.56	PCI/G
SC-18015-S	10/27/1998	RADIUM-228	1.5	0.35	PCI/G
SC-18016-S	10/27/1998	RADIUM-228	1.16	0.53	PCI/G
SC-18019-S	10/27/1998	RADIUM-228	1.2	0.42	PCI/G
SC-18020-S	10/27/1998	RADIUM-228	0.555	1.11	PCI/G
SC-18021-S	10/27/1998	RADIUM-228	1.23	0.37	PCI/G
SC-18022-S	10/27/1998	RADIUM-228	0.615	1.23	PCI/G
SC-18023-S	10/27/1998	RADIUM-228	1.51	0.39	PCI/G
SC-18201-S	10/27/1998	RADIUM-228	0.59	1.18	PCI/G
SC-18202-S	10/27/1998	RADIUM-228	1.48	0.45	PCI/G
SC-18203-S	10/27/1998	RADIUM-228	1.47	0.62	PCI/G
SC-18204-S	10/27/1998	RADIUM-228	1.09	0.37	PCI/G
SC-18205-S	10/27/1998	RADIUM-228	1.18	0.67	PCI/G
SC-18206-S	10/27/1998	RADIUM-228	1.32	0.41	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-18207-S	10/27/1998	RADIUM-228	1.23	0.43	PCI/G
SC-18208-S	10/27/1998	RADIUM-228	1.5	0.34	PCI/G
SC-18209-S	10/27/1998	RADIUM-228	0.59	1.18	PCI/G
SC-18210-S	10/27/1998	RADIUM-228	1.11	0.41	PCI/G
SC-18211-S	10/27/1998	RADIUM-228	0.635	1.27	PCI/G
SC-18212-S	10/27/1998	RADIUM-228	1.16	0.4	PCI/G
SC-18213-S	10/27/1998	RADIUM-228	1.34	0.63	PCI/G
SC-18214-S	10/27/1998	RADIUM-228	1.25	0.3	PCI/G
SC-18215-S	10/27/1998	RADIUM-228	0.64	1.28	PCI/G
SC-18216-S	10/27/1998	RADIUM-228	1.27	0.38	PCI/G
SC-18217-S	10/27/1998	RADIUM-228	1.14	0.24	PCI/G
SC-18218-S	10/27/1998	RADIUM-228	1.42	0.34	PCI/G
SC-18219-S	10/27/1998	RADIUM-228	1.31	0.42	PCI/G
SC-18220-S	3/3/1998	RADIUM-228	1.22	0.44	PCI/G
SC-18301-S	10/23/1998	RADIUM-228	1.23	0.27	PCI/G
SC-18302-S	10/23/1998	RADIUM-228	1.29	0.37	PCI/G
SC-18303-S	10/23/1998	RADIUM-228	1.62	0.4	PCI/G
SC-18304-S	10/23/1998	RADIUM-228	1	0.45	PCI/G
SC-18305-S	10/23/1998	RADIUM-228	1.31	0.41	PCI/G
SC-18306-S	10/23/1998	RADIUM-228	1.42	0.64	PCI/G
SC-18307-S	10/23/1998	RADIUM-228	1.39	0.45	PCI/G
SC-18308-S	10/23/1998	RADIUM-228	0.56	1.12	PCI/G
SC-18309-S	10/23/1998	RADIUM-228	1.38	0.39	PCI/G
SC-18310-S	10/23/1998	RADIUM-228	0.655	1.31	PCI/G
SC-18311-S	10/23/1998	RADIUM-228	1.13	0.47	PCI/G
SC-18312-S	10/23/1998	RADIUM-228	1.2	0.53	PCI/G
SC-18313-S	10/23/1998	RADIUM-228	1.08	0.34	PCI/G
SC-18314-S	10/23/1998	RADIUM-228	1.24	0.54	PCI/G
SC-18315-S	10/23/1998	RADIUM-228	1.36	0.4	PCI/G
SC-18316-S	10/23/1998	RADIUM-228	1.53	0.41	PCI/G
SC-18317-S	10/23/1998	RADIUM-228	1.26	0.27	PCI/G
SC-18318-S	10/23/1998	RADIUM-228	1.08	0.34	PCI/G
SC-18319-S	10/23/1998	RADIUM-228	0.83	0.61	PCI/G
SC-18320-S	10/27/1998	RADIUM-228	1.23	0.37	PCI/G
SC-18321-S	10/23/1998	RADIUM-228	1.38	0.5	PCI/G
SC-18322-S	10/23/1998	RADIUM-228	0.545	1.09	PCI/G
SC-18323-S	10/23/1998	RADIUM-228	1.31	0.38	PCI/G
SC-18324-S	4/3/1998	RADIUM-228	0.97	0.65	PCI/G
SC-18325-S	4/3/1998	RADIUM-228	1	0.41	PCI/G
SC-18326-S	4/3/1998	RADIUM-228	1.36	0.53	PCI/G
SC-18401-S	10/27/1998	RADIUM-228	1.55	0.18	PCI/G
SC-18402-S	3/3/1998	RADIUM-228	1.03	0.3	PCI/G
SC-18403-S	3/3/1998	RADIUM-228	0.61	1.22	PCI/G
SC-18404-S	4/3/1998	RADIUM-228	1.01	0.35	PCI/G
SC-18405-S	4/3/1998	RADIUM-228	0.56	1.12	PCI/G
SC-18406-S	4/3/1998	RADIUM-228	1.41	0.46	PCI/G
SC-18407-S	3/3/1998	RADIUM-228	1.4	0.28	PCI/G
SC-18408-S	3/3/1998	RADIUM-228	0.64	1.28	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-18409-S	3/3/1998	RADIUM-228	1.12	0.43	PCI/G
SC-18410-S	4/3/1998	RADIUM-228	0.48	0.96	PCI/G
SC-18411-S	4/3/1998	RADIUM-228	1.21	0.48	PCI/G
SC-18412-S	4/3/1998	RADIUM-228	0.575	1.15	PCI/G
SC-18413-S	3/3/1998	RADIUM-228	0.555	1.11	PCI/G
SC-18414-S	3/3/1998	RADIUM-228	1	0.39	PCI/G
SC-18415-S	3/3/1998	RADIUM-228	1.25	0.64	PCI/G
SC-18416-S	3/3/1998	RADIUM-228	1.24	0.43	PCI/G
SC-18417-S	4/3/1998	RADIUM-228	1.15	0.3	PCI/G
SC-18418-S	4/3/1998	RADIUM-228	1.59	0.55	PCI/G
SC-18419-S	3/3/1998	RADIUM-228	1.46	0.63	PCI/G
SC-18420-S	3/3/1998	RADIUM-228	1.33	0.44	PCI/G
SC-18421-S	3/3/1998	RADIUM-228	0.605	1.21	PCI/G
SC-18422-S	3/3/1998	RADIUM-228	1.15	0.34	PCI/G
SC-18423-S	4/1/1998	RADIUM-228	1.19	0.53	PCI/G
SC-18424-S	4/3/1998	RADIUM-228	1.27	0.52	PCI/G
SC-18502-S	10/27/1998	RADIUM-228	1.17	0.47	PCI/G
SC-18503-S	3/3/1998	RADIUM-228	1.2	0.53	PCI/G
SC-18504-S	3/3/1998	RADIUM-228	1.19	0.38	PCI/G
SC-18509-S	3/3/1998	RADIUM-228	0.56	1.12	PCI/G
SC-18510-S	3/3/1998	RADIUM-228	0.93	0.32	PCI/G
SC-18516-S	4/1/1998	RADIUM-228	1.18	0.41	PCI/G
SC-18520-S	4/1/1998	RADIUM-228	1.09	0.46	PCI/G
SC-18521-S	4/1/1998	RADIUM-228	1.17	0.5	PCI/G
SC-18601-S	4/1/1998	RADIUM-228	1.24	0.56	PCI/G
SC-18602-S	4/1/1998	RADIUM-228	1.22	0.34	PCI/G
SC-18603-S	4/1/1998	RADIUM-228	1.42	0.31	PCI/G
SC-18604-S	4/1/1998	RADIUM-228	1.44	0.65	PCI/G
SC-18605-S	4/1/1998	RADIUM-228	1.3	0.36	PCI/G
SC-18606-S	4/3/1998	RADIUM-228	1.29	0.58	PCI/G
SC-18607-S	4/1/1998	RADIUM-228	1.47	0.59	PCI/G
SC-18608-S	4/1/1998	RADIUM-228	1.24	0.26	PCI/G
SC-18609-S	4/1/1998	RADIUM-228	0.6	1.2	PCI/G
SC-18610-S	4/1/1998	RADIUM-228	1.33	0.42	PCI/G
SC-18611-S	4/1/1998	RADIUM-228	1.16	0.63	PCI/G
SC-18612-S	4/3/1998	RADIUM-228	1.08	0.43	PCI/G
SC-18613-S	4/1/1998	RADIUM-228	1.19	0.36	PCI/G
SC-18614-S	4/1/1998	RADIUM-228	0.85	0.46	PCI/G
SC-18615-S	4/1/1998	RADIUM-228	1.36	0.34	PCI/G
SC-18616-S	4/1/1998	RADIUM-228	1.23	0.62	PCI/G
SC-18617-S	4/1/1998	RADIUM-228	1.39	0.47	PCI/G
SC-18618-S	4/3/1998	RADIUM-228	0.56	1.12	PCI/G
SC-18619-S	4/1/1998	RADIUM-228	1.47	0.63	PCI/G
SC-18620-S	4/1/1998	RADIUM-228	0.6	1.2	PCI/G
SC-18621-S	3/16/1998	RADIUM-228	1.34	0.43	PCI/G
SC-18622-S	3/16/1998	RADIUM-228	1.4	0.34	PCI/G
SC-18702-S	3/16/1998	RADIUM-228	1.19	0.25	PCI/G
SC-18703-S	3/16/1998	RADIUM-228	1.24	0.49	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-18704-S	3/16/1998	RADIUM-228	1.29	0.35	PCI/G
SC-18705-S	3/16/1998	RADIUM-228	1.4	0.39	PCI/G
SC-18706-C	3/16/1998	RADIUM-228	0.585	1.17	PCI/G
SC-18706-S	3/16/1998	RADIUM-228	1.4	0.43	PCI/G
SC-18805-S	4/1/1998	RADIUM-228	1.39	0.31	PCI/G
SC-18809-S	4/1/1998	RADIUM-228	1.35	0.63	PCI/G
SC-18810-S	4/1/1998	RADIUM-228	1.1	0.31	PCI/G
SC-18811-S	4/1/1998	RADIUM-228	1.19	0.49	PCI/G
SC-18812-S	4/1/1998	RADIUM-228	1.17	0.38	PCI/G
SC-18813-S	4/1/1998	RADIUM-228	1.24	0.29	PCI/G
SC-18817-S	3/16/1998	RADIUM-228	1.26	0.41	PCI/G
SC-18818-S	3/16/1998	RADIUM-228	0.66	1.32	PCI/G
SC-18819-S	3/16/1998	RADIUM-228	1.26	0.41	PCI/G
SC-18820-S	3/16/1998	RADIUM-228	1.26	0.37	PCI/G
SC-18821-S	3/16/1998	RADIUM-228	1.24	0.37	PCI/G
SC-39601-U	3/10/2000	RADIUM-228	1.07	0.29	PCI/G
SC-39602-U	3/10/2000	RADIUM-228	1.07	0.37	PCI/G
SC-39603-U	3/10/2000	RADIUM-228	1.29	0.42	PCI/G
SC-39604-U	3/10/2000	RADIUM-228	1.03	0.35	PCI/G
SC-39605-U	3/10/2000	RADIUM-228	1.06	0.35	PCI/G
SC-39606-U	3/10/2000	RADIUM-228	0.95	0.34	PCI/G
SC-39607-U	3/10/2000	RADIUM-228	1.63	0.32	PCI/G
SC-39608-U	3/10/2000	RADIUM-228	1.2	0.42	PCI/G
SC-39609-U	3/10/2000	RADIUM-228	1.16	0.44	PCI/G
SC-39610-U	3/10/2000	RADIUM-228	1.1	0.37	PCI/G
SC-39611-U	3/10/2000	RADIUM-228	1.08	0.39	PCI/G
SC-39612-U	3/10/2000	RADIUM-228	1.01	0.37	PCI/G
SC-18105-S	10/27/1998	THORIUM-230	0.74	0.62	PCI/G
SC-18106-S	10/27/1998	THORIUM-230	1.04	0.62	PCI/G
SC-18110-S	10/27/1998	THORIUM-230	1.38	0.62	PCI/G
SC-18111-S	10/27/1998	THORIUM-230	0.93	0.62	PCI/G
SC-18116-S	10/27/1998	THORIUM-230	0.71	0.62	PCI/G
SC-39601-U	3/10/2000	THORIUM-230	0.99	0.65	PCI/G
SC-39602-U	3/10/2000	THORIUM-230	1.32	0.64	PCI/G
SC-39603-U	3/10/2000	THORIUM-230	0.99	0.64	PCI/G
SC-39604-U	3/10/2000	THORIUM-230	2.44	0.64	PCI/G
SC-39605-U	3/10/2000	THORIUM-230	1.06	0.65	PCI/G
SC-39606-U	3/10/2000	THORIUM-230	1.01	0.64	PCI/G
SC-39607-U	3/10/2000	THORIUM-230	1.34	0.64	PCI/G
SC-39608-U	3/10/2000	THORIUM-230	1.25	0.64	PCI/G
SC-39609-U	3/10/2000	THORIUM-230	13.6	0.64	PCI/G
SC-39609-U-RS	3/15/2000	THORIUM-230	2.52	0.64	PCI/G
SC-39610-U	3/10/2000	THORIUM-230	1.01	0.64	PCI/G
SC-39611-U	3/10/2000	THORIUM-230	5.97	0.65	PCI/G
SC-39612-U	3/10/2000	THORIUM-230	1.15	0.64	PCI/G
SC-17002-S	9/29/1998	URANIUM-238	1.83	2.85	PCI/G
SC-17003-S	9/29/1998	URANIUM-238	1.455	2.91	PCI/G
SC-17004-S	9/29/1998	URANIUM-238	1.955	3.91	PCI/G

APPENDIX B WP-437 RU18 FINAL DATA

WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-17005-S	9/29/1998	URANIUM-238	1.375	2.75	PCI/G
SC-17007-S	9/29/1998	URANIUM-238	1.93	3.86	PCI/G
SC-17008-S	9/29/1998	URANIUM-238	1.415	2.83	PCI/G
SC-17009-S	9/29/1998	URANIUM-238	1.46	2.26	PCI/G
SC-17010-S	9/29/1998	URANIUM-238	1.975	3.95	PCI/G
SC-17011-C	9/29/1998	URANIUM-238	1.445	2.89	PCI/G
SC-17012-S	9/29/1998	URANIUM-238	1.995	3.99	PCI/G
SC-17013-S	9/29/1998	URANIUM-238	1.345	2.69	PCI/G
SC-17014-S	9/29/1998	URANIUM-238	1.87	3.74	PCI/G
SC-17015-S	9/29/1998	URANIUM-238	1.46	2.92	PCI/G
SC-17017-S	9/29/1998	URANIUM-238	2.16	4.32	PCI/G
SC-17018-S	9/29/1998	URANIUM-238	1.375	2.75	PCI/G
SC-17018-S-RS	10/15/1998	URANIUM-238	2.08	4.16	PCI/G
SC-17019-S	9/29/1998	URANIUM-238	2.005	4.01	PCI/G
SC-17020-S	9/29/1998	URANIUM-238	2.54	2.48	PCI/G
SC-17021-C	9/29/1998	URANIUM-238	2.09	4.18	PCI/G
SC-17022-S	9/29/1998	URANIUM-238	1.41	2.82	PCI/G
SC-17023-S	9/29/1998	URANIUM-238	1.965	3.93	PCI/G
SC-17024-S	9/29/1998	URANIUM-238	1.425	2.85	PCI/G
SC-17025-S	9/29/1998	URANIUM-238	1.365	2.73	PCI/G
SC-17101-S	9/29/1998	URANIUM-238	1.97	3.94	PCI/G
SC-17102-S	9/29/1998	URANIUM-238	1.415	2.83	PCI/G
SC-17103-S	9/29/1998	URANIUM-238	1.975	3.95	PCI/G
SC-17104-S	9/29/1998	URANIUM-238	1.435	2.87	PCI/G
SC-17105-S	9/29/1998	URANIUM-238	2.03	4.06	PCI/G
SC-17106-S	9/29/1998	URANIUM-238	1.535	3.07	PCI/G
SC-17107-S	9/29/1998	URANIUM-238	1.965	3.93	PCI/G
SC-17108-S	9/29/1998	URANIUM-238	1.335	2.67	PCI/G
SC-17109-S	9/29/1998	URANIUM-238	1.99	3.98	PCI/G
SC-17110-S	9/29/1998	URANIUM-238	1.465	2.93	PCI/G
SC-17111-S	9/29/1998	URANIUM-238	2.03	4.06	PCI/G
SC-17112-S	9/29/1998	URANIUM-238	1.435	2.87	PCI/G
SC-17113-S	9/29/1998	URANIUM-238	1.85	3.7	PCI/G
SC-17114-S	9/29/1998	URANIUM-238	1.385	2.77	PCI/G
SC-17115-S	9/29/1998	URANIUM-238	2.145	4.29	PCI/G
SC-17116-S	9/29/1998	URANIUM-238	1.365	2.73	PCI/G
SC-17117-S	9/29/1998	URANIUM-238	1.84	3.68	PCI/G
SC-17118-S	9/29/1998	URANIUM-238	1.345	2.69	PCI/G
SC-17119-S	9/29/1998	URANIUM-238	1.955	3.91	PCI/G
SC-17120-S	9/29/1998	URANIUM-238	1.365	2.73	PCI/G
SC-17121-S	9/29/1998	URANIUM-238	1.97	3.94	PCI/G
SC-17122-S	9/29/1998	URANIUM-238	1.42	2.84	PCI/G
SC-17123-S	9/29/1998	URANIUM-238	1.945	3.89	PCI/G
SC-17124-S	9/29/1998	URANIUM-238	1.335	2.67	PCI/G
SC-17201-S	9/29/1998	URANIUM-238	1.825	3.65	PCI/G
SC-17202-S	9/29/1998	URANIUM-238	1.355	2.71	PCI/G
SC-17203-C	9/29/1998	URANIUM-238	1.87	3.74	PCI/G
SC-17203-S	9/29/1998	URANIUM-238	1.415	2.83	PCI/G

APPENDIX B WP-437 RU18 FINAL DATA

WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-17204-S	9/29/1998	URANIUM-238	1.915	3.83	PCI/G
SC-17205-C	9/29/1998	URANIUM-238	1.425	2.85	PCI/G
SC-17205-S	9/29/1998	URANIUM-238	2.12	4.24	PCI/G
SC-17206-S	9/29/1998	URANIUM-238	1.42	2.84	PCI/G
SC-17207-S	9/29/1998	URANIUM-238	1.835	3.67	PCI/G
SC-17208-S	9/29/1998	URANIUM-238	1.47	2.26	PCI/G
SC-17209-S	9/29/1998	URANIUM-238	1.875	3.75	PCI/G
SC-17210-S	9/29/1998	URANIUM-238	1.97	2.59	PCI/G
SC-17211-S	9/29/1998	URANIUM-238	1.365	2.73	PCI/G
SC-17212-S	9/29/1998	URANIUM-238	1.82	3.64	PCI/G
SC-17213-S	9/29/1998	URANIUM-238	1.285	2.57	PCI/G
SC-17214-C	9/29/1998	URANIUM-238	1.855	3.71	PCI/G
SC-17214-S	9/29/1998	URANIUM-238	1.42	2.84	PCI/G
SC-17215-S	9/29/1998	URANIUM-238	1.93	3.86	PCI/G
SC-17216-S	9/29/1998	URANIUM-238	2.53	2.09	PCI/G
SC-17217-S	9/29/1998	URANIUM-238	2.14	4.28	PCI/G
SC-17218-S	9/29/1998	URANIUM-238	2.72	1.82	PCI/G
SC-17219-S	9/29/1998	URANIUM-238	1.805	3.61	PCI/G
SC-17220-S	9/29/1998	URANIUM-238	1.305	2.61	PCI/G
SC-17221-C	9/29/1998	URANIUM-238	1.82	3.64	PCI/G
SC-17221-S	9/29/1998	URANIUM-238	1.385	2.77	PCI/G
SC-17222-S	9/29/1998	URANIUM-238	1.955	3.91	PCI/G
SC-17223-S	9/29/1998	URANIUM-238	1.43	2.86	PCI/G
SC-17224-S	9/29/1998	URANIUM-238	1.805	3.61	PCI/G
SC-17225-S	9/29/1998	URANIUM-238	1.335	2.67	PCI/G
SC-17226-S	9/29/1998	URANIUM-238	1.77	3.54	PCI/G
SC-17227-S	9/29/1998	URANIUM-238	1.37	2.74	PCI/G
SC-17228-S	9/29/1998	URANIUM-238	1.905	3.81	PCI/G
SC-17301-S	9/29/1998	URANIUM-238	1.455	2.91	PCI/G
SC-17302-S	9/30/1998	URANIUM-238	1.95	3.9	PCI/G
SC-17303-S	9/30/1998	URANIUM-238	1.305	2.61	PCI/G
SC-17304-S	9/30/1998	URANIUM-238	1.91	3.82	PCI/G
SC-17305-S	9/30/1998	URANIUM-238	1.4	2.8	PCI/G
SC-17306-S	9/30/1998	URANIUM-238	1.915	3.83	PCI/G
SC-17307-S	9/30/1998	URANIUM-238	1.245	2.49	PCI/G
SC-17308-S	9/29/1998	URANIUM-238	1.395	2.79	PCI/G
SC-17309-S	9/30/1998	URANIUM-238	1.985	3.97	PCI/G
SC-17310-S	9/30/1998	URANIUM-238	1.29	2.58	PCI/G
SC-17311-S	9/30/1998	URANIUM-238	1.945	3.89	PCI/G
SC-17312-S	9/30/1998	URANIUM-238	1.91	3.82	PCI/G
SC-17313-S	9/30/1998	URANIUM-238	1.325	2.65	PCI/G
SC-17314-S	9/30/1998	URANIUM-238	1.875	3.75	PCI/G
SC-17315-S	9/30/1998	URANIUM-238	1.405	2.81	PCI/G
SC-17316-S	9/30/1998	URANIUM-238	1.895	3.79	PCI/G
SC-17317-S	9/30/1998	URANIUM-238	1.315	2.63	PCI/G
SC-17318-S	9/30/1998	URANIUM-238	1.925	3.85	PCI/G
SC-17319-S	10/16/1998	URANIUM-238	1.365	2.73	PCI/G
SC-17320-S	10/16/1998	URANIUM-238	1.915	3.83	PCI/G

APPENDIX B WP-437 RU18 FINAL DATA

WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-17321-S	10/16/1998	URANIUM-238	1.23	2.46	PCI/G
SC-17402-S	9/30/1998	URANIUM-238	1.455	2.91	PCI/G
SC-17403-S	9/30/1998	URANIUM-238	2.04	4.08	PCI/G
SC-17404-S	9/30/1998	URANIUM-238	1.36	2.72	PCI/G
SC-17405-S	9/30/1998	URANIUM-238	2.44	3.02	PCI/G
SC-17407-S	9/30/1998	URANIUM-238	1.375	2.75	PCI/G
SC-17408-S	9/30/1998	URANIUM-238	3.16	3.11	PCI/G
SC-17409-S	9/30/1998	URANIUM-238	2.43	2.11	PCI/G
SC-17410-S	9/30/1998	URANIUM-238	1.89	3.78	PCI/G
SC-17411-S	9/30/1998	URANIUM-238	2.02	2.67	PCI/G
SC-17412-S	9/30/1998	URANIUM-238	2.09	4.18	PCI/G
SC-17413-S	9/30/1998	URANIUM-238	1.42	2.84	PCI/G
SC-17414-S	9/30/1998	URANIUM-238	1.965	3.93	PCI/G
SC-17416-S	9/30/1998	URANIUM-238	1.34	2.68	PCI/G
SC-17417-S	9/30/1998	URANIUM-238	2.205	4.41	PCI/G
SC-17418-S	9/30/1998	URANIUM-238	1.42	2.84	PCI/G
SC-17419-S	9/30/1998	URANIUM-238	2.02	4.04	PCI/G
SC-17420-S	9/30/1998	URANIUM-238	1.485	2.97	PCI/G
SC-17421-S	9/30/1998	URANIUM-238	2.02	4.04	PCI/G
SC-17422-S	9/30/1998	URANIUM-238	1.415	2.83	PCI/G
SC-17423-S	9/30/1998	URANIUM-238	1.945	3.89	PCI/G
SC-17501-C	9/30/1998	URANIUM-238	1.345	2.69	PCI/G
SC-17502-S	9/30/1998	URANIUM-238	4.36	3.97	PCI/G
SC-17503-S	9/30/1998	URANIUM-238	5.71	2.45	PCI/G
SC-17504-S	9/30/1998	URANIUM-238	1.835	3.67	PCI/G
SC-17506-S	9/30/1998	URANIUM-238	2.01	2.26	PCI/G
SC-17507-S	9/30/1998	URANIUM-238	1.87	3.74	PCI/G
SC-17508-S	9/30/1998	URANIUM-238	5.61	2.45	PCI/G
SC-17509-C	9/30/1998	URANIUM-238	1.82	3.64	PCI/G
SC-17510-S	9/30/1998	URANIUM-238	1.44	2.88	PCI/G
SC-17511-S	9/30/1998	URANIUM-238	3.4	2.07	PCI/G
SC-17512-S	9/30/1998	URANIUM-238	1.385	2.77	PCI/G
SC-17514-S	9/30/1998	URANIUM-238	2.11	4.22	PCI/G
SC-17515-S	9/30/1998	URANIUM-238	1.395	2.79	PCI/G
SC-17516-S	9/30/1998	URANIUM-238	2.11	4.22	PCI/G
SC-17518-S	9/30/1998	URANIUM-238	1.425	2.85	PCI/G
SC-17519-S	9/30/1998	URANIUM-238	1.95	3.9	PCI/G
SC-17520-S	9/30/1998	URANIUM-238	1.365	2.73	PCI/G
SC-17523-S	9/30/1998	URANIUM-238	1.97	3.94	PCI/G
SC-17524-S	9/30/1998	URANIUM-238	1.345	2.69	PCI/G
SC-17601-S	10/1/1998	URANIUM-238	1.935	3.87	PCI/G
SC-17602-S	10/1/1998	URANIUM-238	1.39	2.78	PCI/G
SC-17603-S	10/1/1998	URANIUM-238	1.955	3.91	PCI/G
SC-17604-S	10/1/1998	URANIUM-238	2.34	1.94	PCI/G
SC-17605-S	10/1/1998	URANIUM-238	1.87	3.74	PCI/G
SC-17606-S	10/1/1998	URANIUM-238	1.415	2.83	PCI/G
SC-17607-S	10/1/1998	URANIUM-238	6.15	3.21	PCI/G
SC-17608-S	10/1/1998	URANIUM-238	1.425	2.85	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-17609-S	10/1/1998	URANIUM-238	1.87	3.74	PCI/G
SC-17610-S	10/1/1998	URANIUM-238	1.45	2.9	PCI/G
SC-17611-S	10/1/1998	URANIUM-238	1.815	3.63	PCI/G
SC-17612-S	10/1/1998	URANIUM-238	2.08	2.33	PCI/G
SC-17613-S	10/1/1998	URANIUM-238	2.215	4.43	PCI/G
SC-17614-S	10/1/1998	URANIUM-238	1.4	2.8	PCI/G
SC-17615-S	10/1/1998	URANIUM-238	2.02	4.04	PCI/G
SC-17616-S	10/1/1998	URANIUM-238	3.18	1.9	PCI/G
SC-17617-S	10/1/1998	URANIUM-238	2.035	4.07	PCI/G
SC-17618-S	10/1/1998	URANIUM-238	1.41	2.82	PCI/G
SC-17619-S	10/1/1998	URANIUM-238	2.08	4.16	PCI/G
SC-17620-S	10/1/1998	URANIUM-238	1.435	2.87	PCI/G
SC-17701-S	9/30/1998	URANIUM-238	1.34	2.68	PCI/G
SC-17702-S	10/1/1998	URANIUM-238	1.885	3.77	PCI/G
SC-17703-S	10/1/1998	URANIUM-238	1.345	2.69	PCI/G
SC-17704-S	10/16/1998	URANIUM-238	2.055	4.11	PCI/G
SC-17705-S	10/1/1998	URANIUM-238	1.87	3.74	PCI/G
SC-17706-S	10/1/1998	URANIUM-238	1.39	2.78	PCI/G
SC-17707-S	10/1/1998	URANIUM-238	1.895	3.79	PCI/G
SC-17708-S	10/16/1998	URANIUM-238	1.405	2.81	PCI/G
SC-17709-S	10/1/1998	URANIUM-238	1.385	2.77	PCI/G
SC-17710-S	10/1/1998	URANIUM-238	1.87	3.74	PCI/G
SC-17711-S	10/1/1998	URANIUM-238	1.425	2.85	PCI/G
SC-17712-S	10/16/1998	URANIUM-238	1.85	3.59	PCI/G
SC-17713-S	10/1/1998	URANIUM-238	1.915	3.83	PCI/G
SC-17714-S	10/1/1998	URANIUM-238	1.43	2.86	PCI/G
SC-17715-S	10/1/1998	URANIUM-238	1.855	3.71	PCI/G
SC-17716-S	10/16/1998	URANIUM-238	1.4	2.8	PCI/G
SC-17717-S	10/1/1998	URANIUM-238	1.33	2.66	PCI/G
SC-17718-S	10/1/1998	URANIUM-238	1.425	2.85	PCI/G
SC-17719-S	10/16/1998	URANIUM-238	1.825	3.65	PCI/G
SC-17720-S	10/16/1998	URANIUM-238	1.41	2.82	PCI/G
SC-17801-S	10/16/1998	URANIUM-238	1.355	2.71	PCI/G
SC-17802-S	10/16/1998	URANIUM-238	1.915	3.83	PCI/G
SC-17803-C	10/16/1998	URANIUM-238	1.435	2.87	PCI/G
SC-17803-S	10/16/1998	URANIUM-238	1.82	3.64	PCI/G
SC-17804-S	10/16/1998	URANIUM-238	1.415	2.83	PCI/G
SC-17805-S	10/16/1998	URANIUM-238	1.86	3.72	PCI/G
SC-17806-C	10/16/1998	URANIUM-238	1.42	2.84	PCI/G
SC-17806-S	10/16/1998	URANIUM-238	1.915	3.83	PCI/G
SC-17807-S	10/16/1998	URANIUM-238	1.27	2.54	PCI/G
SC-17808-S	10/16/1998	URANIUM-238	1.97	3.94	PCI/G
SC-17809-S	10/16/1998	URANIUM-238	1.34	2.68	PCI/G
SC-17810-S	10/16/1998	URANIUM-238	1.86	3.72	PCI/G
SC-17811-S	10/16/1998	URANIUM-238	1.785	3.57	PCI/G
SC-17812-C	10/16/1998	URANIUM-238	1.51	3.02	PCI/G
SC-17812-S	10/16/1998	URANIUM-238	1.76	3.52	PCI/G
SC-17813-S	10/16/1998	URANIUM-238	1.31	2.62	PCI/G

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WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-17814-S	10/16/1998	URANIUM-238	1.875	3.75	PCI/G
SC-17815-S	10/16/1998	URANIUM-238	1.36	2.72	PCI/G
SC-17816-S	10/16/1998	URANIUM-238	1.97	3.94	PCI/G
SC-17817-S	10/16/1998	URANIUM-238	1.385	2.77	PCI/G
SC-17818-C	10/16/1998	URANIUM-238	1.93	3.86	PCI/G
SC-17818-S	10/16/1998	URANIUM-238	1.295	2.59	PCI/G
SC-17819-S	10/16/1998	URANIUM-238	1.84	3.68	PCI/G
SC-17820-S	10/16/1998	URANIUM-238	1.35	2.7	PCI/G
SC-17821-S	10/16/1998	URANIUM-238	1.665	3.33	PCI/G
SC-17822-S	10/16/1998	URANIUM-238	3.08	2.61	PCI/G
SC-17901-S	10/23/1998	URANIUM-238	2.1	4.2	PCI/G
SC-17902-S	10/23/1998	URANIUM-238	1.43	2.86	PCI/G
SC-17903-S	10/23/1998	URANIUM-238	1.985	3.97	PCI/G
SC-17904-S	10/23/1998	URANIUM-238	1.5	2.01	PCI/G
SC-17905-S	10/23/1998	URANIUM-238	1.815	3.63	PCI/G
SC-17906-S	10/23/1998	URANIUM-238	1.455	2.91	PCI/G
SC-17907-S	10/23/1998	URANIUM-238	2.09	4.18	PCI/G
SC-17908-S	10/23/1998	URANIUM-238	1.42	2.84	PCI/G
SC-17909-S	10/23/1998	URANIUM-238	1.91	3.82	PCI/G
SC-17910-S	10/23/1998	URANIUM-238	1.435	2.87	PCI/G
SC-17911-S	10/23/1998	URANIUM-238	1.975	3.95	PCI/G
SC-17912-S	10/23/1998	URANIUM-238	1.34	2.68	PCI/G
SC-17913-S	10/23/1998	URANIUM-238	1.945	3.89	PCI/G
SC-17914-S	10/23/1998	URANIUM-238	1.3	2.6	PCI/G
SC-17915-S	10/23/1998	URANIUM-238	1.965	3.93	PCI/G
SC-17916-S	10/23/1998	URANIUM-238	1.41	2.82	PCI/G
SC-17917-S	10/23/1998	URANIUM-238	1.905	3.81	PCI/G
SC-17918-S	10/23/1998	URANIUM-238	1.35	2.7	PCI/G
SC-17919-S	10/23/1998	URANIUM-238	1.955	3.91	PCI/G
SC-17920-S	10/23/1998	URANIUM-238	1.31	2.62	PCI/G
SC-18001-S	10/1/1998	URANIUM-238	1.85	3.7	PCI/G
SC-18002-S	10/27/1998	URANIUM-238	1.35	2.7	PCI/G
SC-18003-S	10/27/1998	URANIUM-238	1.995	3.99	PCI/G
SC-18004-S	10/27/1998	URANIUM-238	1.445	2.89	PCI/G
SC-18005-S	10/27/1998	URANIUM-238	1.95	3.9	PCI/G
SC-18006-S	10/27/1998	URANIUM-238	1.18	1.65	PCI/G
SC-18007-S	10/27/1998	URANIUM-238	1.895	3.79	PCI/G
SC-18008-S	10/27/1998	URANIUM-238	1.375	2.75	PCI/G
SC-18012-S	10/27/1998	URANIUM-238	22.3	4.96	PCI/G
SC-18013-S	10/27/1998	URANIUM-238	1.415	2.83	PCI/G
SC-18014-S	10/27/1998	URANIUM-238	1.905	3.81	PCI/G
SC-18015-S	10/27/1998	URANIUM-238	1.36	2.72	PCI/G
SC-18016-S	10/27/1998	URANIUM-238	1.885	3.77	PCI/G
SC-18019-S	10/27/1998	URANIUM-238	1.89	1.81	PCI/G
SC-18020-S	10/27/1998	URANIUM-238	1.855	3.71	PCI/G
SC-18021-S	10/27/1998	URANIUM-238	1.47	2.94	PCI/G
SC-18022-S	10/27/1998	URANIUM-238	1.89	3.78	PCI/G
SC-18023-S	10/27/1998	URANIUM-238	1.415	2.83	PCI/G

APPENDIX B WP-437 RU18 FINAL DATA

WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-18104-S	10/27/1998	URANIUM-238	1.91	3.82	PCI/G
SC-18105-S	10/27/1998	URANIUM-238	1.36	2.72	PCI/G
SC-18106-S	10/27/1998	URANIUM-238	1.895	3.79	PCI/G
SC-18108-S	1/29/1999	URANIUM-238	2.05	4.1	PCI/G
SC-18109-S	1/29/1999	URANIUM-238	3.9	2.25	PCI/G
SC-18110-S	10/27/1998	URANIUM-238	1.43	2.86	PCI/G
SC-18111-S	10/27/1998	URANIUM-238	1.965	3.93	PCI/G
SC-18114-C	1/29/1999	URANIUM-238	2.205	4.41	PCI/G
SC-18114-S	1/29/1999	URANIUM-238	3.39	2.48	PCI/G
SC-18115-S	1/29/1999	URANIUM-238	3.64	2.45	PCI/G
SC-18116-S	10/27/1998	URANIUM-238	1.52	3.04	PCI/G
SC-18119-S	1/29/1999	URANIUM-238	1.495	2.99	PCI/G
SC-18120-S	1/29/1999	URANIUM-238	3.12	2.51	PCI/G
SC-18122-S	1/29/1999	URANIUM-238	1.6	2.12	PCI/G
SC-18123-S	1/29/1999	URANIUM-238	1.97	3.58	PCI/G
SC-18126-S	1/29/1999	URANIUM-238	1.87	1.78	PCI/G
SC-18201-S	10/27/1998	URANIUM-238	2.04	4.08	PCI/G
SC-18202-S	10/27/1998	URANIUM-238	1.41	2.82	PCI/G
SC-18203-S	10/27/1998	URANIUM-238	2.085	4.17	PCI/G
SC-18204-S	10/27/1998	URANIUM-238	1.36	2.72	PCI/G
SC-18205-S	10/27/1998	URANIUM-238	1.825	3.65	PCI/G
SC-18206-S	10/27/1998	URANIUM-238	1.34	2.68	PCI/G
SC-18207-S	10/27/1998	URANIUM-238	1.985	3.97	PCI/G
SC-18208-S	10/27/1998	URANIUM-238	1.395	2.79	PCI/G
SC-18209-S	10/27/1998	URANIUM-238	1.975	3.95	PCI/G
SC-18210-S	10/27/1998	URANIUM-238	1.575	3.15	PCI/G
SC-18211-S	10/27/1998	URANIUM-238	1.885	3.77	PCI/G
SC-18212-S	10/27/1998	URANIUM-238	1.395	2.79	PCI/G
SC-18213-S	10/27/1998	URANIUM-238	1.725	3.45	PCI/G
SC-18214-S	10/27/1998	URANIUM-238	1.4	2.8	PCI/G
SC-18215-S	10/27/1998	URANIUM-238	1.79	3.58	PCI/G
SC-18216-S	10/27/1998	URANIUM-238	1.39	2.78	PCI/G
SC-18217-S	10/27/1998	URANIUM-238	2.13	2.55	PCI/G
SC-18218-S	10/27/1998	URANIUM-238	1.345	2.69	PCI/G
SC-18219-S	10/27/1998	URANIUM-238	1.76	3.52	PCI/G
SC-18220-S	3/3/1998	URANIUM-238	1.925	3.85	PCI/G
SC-18301-S	10/23/1998	URANIUM-238	1.915	3.83	PCI/G
SC-18302-S	10/23/1998	URANIUM-238	1.825	3.65	PCI/G
SC-18303-S	10/23/1998	URANIUM-238	1.265	2.53	PCI/G
SC-18304-S	10/23/1998	URANIUM-238	1.975	3.95	PCI/G
SC-18305-S	10/23/1998	URANIUM-238	1.385	2.77	PCI/G
SC-18306-S	10/23/1998	URANIUM-238	1.935	3.87	PCI/G
SC-18307-S	10/23/1998	URANIUM-238	1.31	2.62	PCI/G
SC-18308-S	10/23/1998	URANIUM-238	2.065	4.13	PCI/G
SC-18309-S	10/23/1998	URANIUM-238	1.64	2.47	PCI/G
SC-18310-S	10/23/1998	URANIUM-238	1.905	3.81	PCI/G
SC-18311-S	10/23/1998	URANIUM-238	1.37	2.74	PCI/G
SC-18312-S	10/23/1998	URANIUM-238	1.84	3.68	PCI/G

APPENDIX B WP-437 RU18 FINAL DATA

WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-18313-S	10/23/1998	URANIUM-238	1.36	2.03	PCI/G
SC-18314-S	10/23/1998	URANIUM-238	1.995	3.99	PCI/G
SC-18315-S	10/23/1998	URANIUM-238	1.435	2.87	PCI/G
SC-18316-S	10/23/1998	URANIUM-238	2.17	4.34	PCI/G
SC-18317-S	10/23/1998	URANIUM-238	1.985	3.97	PCI/G
SC-18318-S	10/23/1998	URANIUM-238	1.41	2.82	PCI/G
SC-18319-S	10/23/1998	URANIUM-238	1.925	3.85	PCI/G
SC-18320-S	10/27/1998	URANIUM-238	1.435	2.87	PCI/G
SC-18321-S	10/23/1998	URANIUM-238	3.59	2.17	PCI/G
SC-18322-S	10/23/1998	URANIUM-238	1.815	3.63	PCI/G
SC-18323-S	10/23/1998	URANIUM-238	1.46	2.92	PCI/G
SC-18324-S	4/3/1998	URANIUM-238	1.81	3.21	PCI/G
SC-18325-S	4/3/1998	URANIUM-238	1.345	2.69	PCI/G
SC-18326-S	4/3/1998	URANIUM-238	1.995	3.99	PCI/G
SC-18401-S	10/27/1998	URANIUM-238	2.09	4.18	PCI/G
SC-18402-S	3/3/1998	URANIUM-238	2.37	2.31	PCI/G
SC-18403-S	3/3/1998	URANIUM-238	2.05	4.1	PCI/G
SC-18404-S	4/3/1998	URANIUM-238	2.43	1.92	PCI/G
SC-18405-S	4/3/1998	URANIUM-238	1.885	3.77	PCI/G
SC-18406-S	4/3/1998	URANIUM-238	1.5	3	PCI/G
SC-18407-S	3/3/1998	URANIUM-238	1.455	2.91	PCI/G
SC-18408-S	3/3/1998	URANIUM-238	1.97	3.94	PCI/G
SC-18409-S	3/3/1998	URANIUM-238	1.475	2.95	PCI/G
SC-18410-S	4/3/1998	URANIUM-238	1.965	3.93	PCI/G
SC-18411-S	4/3/1998	URANIUM-238	1.32	2.64	PCI/G
SC-18412-S	4/3/1998	URANIUM-238	1.86	3.72	PCI/G
SC-18413-S	3/3/1998	URANIUM-238	1.665	3.33	PCI/G
SC-18414-S	3/3/1998	URANIUM-238	1.53	1.75	PCI/G
SC-18415-S	3/3/1998	URANIUM-238	1.93	3.86	PCI/G
SC-18416-S	3/3/1998	URANIUM-238	1.335	2.67	PCI/G
SC-18417-S	4/3/1998	URANIUM-238	1.405	2.81	PCI/G
SC-18418-S	4/3/1998	URANIUM-238	2.225	4.45	PCI/G
SC-18419-S	3/3/1998	URANIUM-238	2.28	4.56	PCI/G
SC-18420-S	3/3/1998	URANIUM-238	1.565	3.13	PCI/G
SC-18421-S	3/3/1998	URANIUM-238	1.99	3.98	PCI/G
SC-18422-S	3/3/1998	URANIUM-238	1.585	3.17	PCI/G
SC-18423-S	4/1/1998	URANIUM-238	1.95	3.9	PCI/G
SC-18424-S	4/3/1998	URANIUM-238	1.62	2.58	PCI/G
SC-18501-S	10/27/1998	URANIUM-238	1.41	2.82	PCI/G
SC-18502-S	10/27/1998	URANIUM-238	2.005	4.01	PCI/G
SC-18503-S	3/3/1998	URANIUM-238	2.09	4.18	PCI/G
SC-18504-S	3/3/1998	URANIUM-238	1.35	2.7	PCI/G
SC-18506-S	1/29/1999	URANIUM-238	1.825	3.65	PCI/G
SC-18507-S	4/2/1998	URANIUM-238	1.345	2.69	PCI/G
SC-18508-S	4/1/1998	URANIUM-238	1.47	2.94	PCI/G
SC-18509-S	3/3/1998	URANIUM-238	1.755	3.51	PCI/G
SC-18510-S	3/3/1998	URANIUM-238	1.255	2.51	PCI/G
SC-18513-S	4/1/1998	URANIUM-238	2.67	2.37	PCI/G

APPENDIX B WP-437 RU18 FINAL DATA

WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-18514-S	4/1/1998	URANIUM-238	1.85	3.7	PCI/G
SC-18515-S	4/1/1998	URANIUM-238	1.39	2.78	PCI/G
SC-18516-S	4/1/1998	URANIUM-238	1.32	2.64	PCI/G
SC-18518-S	4/1/1998	URANIUM-238	5.1	1.99	PCI/G
SC-18519-S	4/1/1998	URANIUM-238	1.825	3.65	PCI/G
SC-18520-S	4/1/1998	URANIUM-238	2.005	4.01	PCI/G
SC-18521-S	4/1/1998	URANIUM-238	2.08	2.24	PCI/G
SC-18601-S	4/1/1998	URANIUM-238	2.06	4.12	PCI/G
SC-18602-S	4/1/1998	URANIUM-238	1.78	2.03	PCI/G
SC-18603-S	4/1/1998	URANIUM-238	1.385	2.77	PCI/G
SC-18604-S	4/1/1998	URANIUM-238	1.8	3.6	PCI/G
SC-18605-S	4/1/1998	URANIUM-238	1.43	2.86	PCI/G
SC-18606-S	4/3/1998	URANIUM-238	2.2	4.4	PCI/G
SC-18607-S	4/1/1998	URANIUM-238	1.895	3.79	PCI/G
SC-18608-S	4/1/1998	URANIUM-238	1.62	1.77	PCI/G
SC-18609-S	4/1/1998	URANIUM-238	1.745	3.49	PCI/G
SC-18610-S	4/1/1998	URANIUM-238	1.27	2.54	PCI/G
SC-18611-S	4/1/1998	URANIUM-238	2.05	4.1	PCI/G
SC-18612-S	4/3/1998	URANIUM-238	1.8	2.51	PCI/G
SC-18613-S	4/1/1998	URANIUM-238	1.93	1.95	PCI/G
SC-18614-S	4/1/1998	URANIUM-238	1.93	3.86	PCI/G
SC-18615-S	4/1/1998	URANIUM-238	1.365	2.73	PCI/G
SC-18616-S	4/1/1998	URANIUM-238	1.875	3.75	PCI/G
SC-18617-S	4/1/1998	URANIUM-238	1.35	2.7	PCI/G
SC-18618-S	4/3/1998	URANIUM-238	1.89	3.78	PCI/G
SC-18619-S	4/1/1998	URANIUM-238	1.875	3.75	PCI/G
SC-18620-S	4/1/1998	URANIUM-238	2.1	4.2	PCI/G
SC-18621-S	3/16/1998	URANIUM-238	2.25	4.5	PCI/G
SC-18622-S	3/16/1998	URANIUM-238	2.75	2.51	PCI/G
SC-18701-S	3/16/1998	URANIUM-238	2.1	2.83	PCI/G
SC-18702-S	3/16/1998	URANIUM-238	2.105	4.21	PCI/G
SC-18703-S	3/16/1998	URANIUM-238	1.485	2.97	PCI/G
SC-18704-S	3/16/1998	URANIUM-238	3.36	3.54	PCI/G
SC-18705-S	3/16/1998	URANIUM-238	3.75	2	PCI/G
SC-18706-C	3/16/1998	URANIUM-238	2.085	4.17	PCI/G
SC-18706-S	3/16/1998	URANIUM-238	2.215	4.43	PCI/G
SC-18707-C	3/16/1998	URANIUM-238	2.215	4.43	PCI/G
SC-18708-S	3/16/1998	URANIUM-238	2.345	4.69	PCI/G
SC-18709-S	3/16/1998	URANIUM-238	1.4	2.8	PCI/G
SC-18710-S	3/16/1998	URANIUM-238	1.885	3.77	PCI/G
SC-18711-S	3/16/1998	URANIUM-238	1.475	2.95	PCI/G
SC-18712-C	3/16/1998	URANIUM-238	2.15	4.3	PCI/G
SC-18712-S	3/16/1998	URANIUM-238	1.4	2.8	PCI/G
SC-18716-S	3/16/1998	URANIUM-238	1.84	3.68	PCI/G
SC-18717-S	3/16/1998	URANIUM-238	1.85	3.7	PCI/G
SC-18718-S	3/16/1998	URANIUM-238	2.05	2.29	PCI/G
SC-18720-C	3/16/1998	URANIUM-238	1.37	2.74	PCI/G
SC-18721-S	3/16/1998	URANIUM-238	1.97	3.94	PCI/G

APPENDIX B WP-437 RU18 FINAL DATA

WSSRAP_ID	DATE_SAM	PARAMETER	CONC	DL	UNITS
SC-18722-S	3/16/1998	URANIUM-238	2.14	4.28	PCI/G
SC-18726-S	3/16/1998	URANIUM-238	1.32	2.64	PCI/G
SC-18803-S	3/17/1998	URANIUM-238	2.215	4.43	PCI/G
SC-18804-S	4/1/1998	URANIUM-238	1.445	2.89	PCI/G
SC-18805-S	4/1/1998	URANIUM-238	1.415	2.83	PCI/G
SC-18807-S	3/18/1998	URANIUM-238	1.925	3.85	PCI/G
SC-18808-S	3/17/1998	URANIUM-238	1.39	2.78	PCI/G
SC-18809-S	4/1/1998	URANIUM-238	2.16	4.32	PCI/G
SC-18810-S	4/1/1998	URANIUM-238	1.39	2.78	PCI/G
SC-18811-S	4/1/1998	URANIUM-238	1.76	3.52	PCI/G
SC-18812-S	4/1/1998	URANIUM-238	1.205	2.41	PCI/G
SC-18813-S	4/1/1998	URANIUM-238	1.395	2.79	PCI/G
SC-18816-S	3/17/1998	URANIUM-238	5.14	3.26	PCI/G
SC-18817-S	3/16/1998	URANIUM-238	4.05	1.89	PCI/G
SC-18818-S	3/16/1998	URANIUM-238	2.18	4.36	PCI/G
SC-18819-S	3/16/1998	URANIUM-238	1.395	2.79	PCI/G
SC-18820-S	3/16/1998	URANIUM-238	1.885	3.77	PCI/G
SC-18821-S	3/16/1998	URANIUM-238	3	1.98	PCI/G
SC-39601-U	3/10/2000	URANIUM-238	0.975	1.95	PCI/G
SC-39602-U	3/10/2000	URANIUM-238	1.13	2.26	PCI/G
SC-39603-U	3/10/2000	URANIUM-238	1.04	2.08	PCI/G
SC-39604-U	3/10/2000	URANIUM-238	1.135	2.27	PCI/G
SC-39605-U	3/10/2000	URANIUM-238	1.115	2.23	PCI/G
SC-39606-U	3/10/2000	URANIUM-238	1.095	2.19	PCI/G
SC-39607-U	3/10/2000	URANIUM-238	0.86	1.72	PCI/G
SC-39608-U	3/10/2000	URANIUM-238	1.085	2.17	PCI/G
SC-39609-U	3/10/2000	URANIUM-238	4.05	2.34	PCI/G
SC-39610-U	3/10/2000	URANIUM-238	1.05	2.1	PCI/G
SC-39611-U	3/10/2000	URANIUM-238	1.145	2.29	PCI/G
SC-39612-U	3/10/2000	URANIUM-238	1.115	2.23	PCI/G

APPENDIX C
RU018 Sample Location Coordinates

WP437 RU18 SAMPLE LOCATION COORDINATES

SAMPLE LOCATION	NORTHING	EASTING	ELEVATION
SC-17002-S	1044619.51	754717.31	645.96
SC-17003-S	1044603.43	754746.05	645.24
SC-17004-S	1044587.47	754774.57	645.02
SC-17005-S	1044571.41	754803.23	645.36
SC-17007-S	1044590.91	754701.28	642.26
SC-17008-S	1044574.82	754730.00	643.00
SC-17009-S	1044558.78	754758.65	643.23
SC-17010-S	1044542.74	754787.30	643.56
SC-17011-C	1044581.53	754684.45	641.80
SC-17012-S	1044562.27	754685.28	642.46
SC-17013-S	1044546.16	754714.11	643.25
SC-17014-S	1044530.18	754742.56	643.74
SC-17015-S	1044514.18	754771.19	644.46
SC-17017-S	1044533.62	754669.27	641.23
SC-17018-S	1044517.61	754697.86	639.77
SC-17019-S	1000501.55	754726.56	644.35
SC-17020-S	1044485.55	754755.11	644.65
SC-17021-C	1044524.29	754652.36	641.69
SC-17022-S	1044504.97	754653.33	642.09
SC-17023-S	1044488.95	754681.90	643.92
SC-17024-S	1044472.94	754710.52	644.33
SC-17025-S	1044456.91	754739.17	645.25
SC-17101-S	1044555.42	754831.76	645.86
SC-17102-S	1044539.35	754860.50	645.61
SC-17103-S	1044523.34	754889.11	645.16
SC-17104-S	1044507.30	754917.75	644.05
SC-17105-S	1044526.74	754815.88	643.73
SC-17106-S	1044510.76	754844.42	643.87
SC-17107-S	1044494.72	754873.05	643.79
SC-17108-S	1044478.63	754901.91	644.01
SC-17109-S	1044498.13	754799.83	644.33
SC-17110-S	1044482.09	754828.51	644.99
SC-17111-S	1044466.08	754857.10	644.38
SC-17112-S	1044450.05	754885.70	644.64
SC-17113-S	1044469.49	754783.88	644.89
SC-17114-S	1044453.50	754812.34	645.64
SC-17115-S	1044437.48	754840.98	645.81
SC-17116-S	1044421.43	754869.73	645.29
SC-17117-S	1044440.89	754767.70	645.46
SC-17118-S	1044424.87	754796.29	645.98
SC-17119-S	1044408.82	754825.03	646.39
SC-17120-S	1044392.81	754853.61	646.45
SC-17121-S	1044412.27	754751.68	645.48
SC-17122-S	1044396.23	754780.42	646.07
SC-17123-S	1044380.22	754809.01	646.70
SC-17124-S	1044364.19	754837.64	646.96
SC-17201-S	1044491.28	754946.38	643.13
SC-17202-S	1044475.28	754974.95	642.91
SC-17203-C	1044457.16	755021.38	645.21
SC-17103-S	1044459.24	755003.60	642.22
SC-17204-S	1044443.18	755032.30	641.30
SC-17205-C	1044426.10	755079.24	645.52
SC-17205-S	1044427.16	755060.92	641.63
SC-17206-S	1044411.13	755089.64	640.70
SC-17207-S	1044395.25	755118.22	639.84
SC-17208-S	1044462.68	754930.26	643.82
SC-17209-S	1044446.83	754958.22	643.49
SC-17210-S	1044430.63	754987.48	643.12
SC-17211-S	1044414.59	755016.19	642.61
SC-17212-S	1044398.55	755044.75	642.28
SC-17213-S	1044382.49	755073.34	641.44
SC-17214-C	1044377.11	755116.34	645.36
SC-17214-S	1044366.60	755102.14	640.43
SC-17215-S	1044434.03	754914.35	644.78

WP437 RU18 SAMPLE LOCATION COORDINATES

SC-17216-S	1044418.00	754943.00	642.89
SC-17217-S	1044401.98	754971 51	643 92
SC-17218-S	1044385.96	755000.13	643 01
SC-17219-S	1044369.98	755028.92	642 57
SC-17220-S	1044353.95	755057.48	642 18
SC-17221-C	1044348.14	755101.05	646 14
SC-17221-S	1044337.80	755086 00	639 23
SC-17222-S	1044405.41	754898.35	644 77
SC-17223-S	1044389.39	754926 90	644 58
SC-17224-S	1044373.37	754955.56	643.81
SC-17225-S	1044357.34	754984 14	642.42
SC-17226-S	1044341.34	755012 83	642.69
SC-17227-S	1044325.21	755041.33	641 78
SC-17228-S	1044309.31	755070.06	639.50
SC-17301-S	1044376 78	754882.18	645.85
SC-17302-S	1044360 73	754910.69	644 47
SC-17303-S	1044344 77	754939 61	643 84
SC-17304-S	1044328.75	754968 20	643 38
SC-17305-S	1044312.67	754996 72	642.71
SC-17306-S	1044296 76	755025 45	641 24
SC-17307-S	1044280.63	755054 00	639 20
SC-17308-S	1044348 15	754866 19	646.25
SC-17309-S	1044332.12	754894 80	643 99
SC-17310-S	1044316 13	754923 52	644.43
SC-17311-S	1044300 17	754952 23	643.50
SC-17312-S	1044283 98	754980 64	642.63
SC-17313-S	1044268 08	755009 39	641.46
SC-17314-S	1044252 07	755038 01	639.44
SC-17315-S	1044319 57	754850 30	646.15
SC-17316-S	1044303.56	754878 94	644.43
SC-17317-S	1044287 41	754907.31	645.22
SC-17318-S	1044271.50	754936 12	644 04
SC-17319-S	1044255 31	754964 55	643.08
SC-17320-S	1044239 16	754993 11	641.72
SC-17321-S	1044223 44	755021.97	638.60
SC-17402-S	1044476.35	754637 30	642 31
SC-17403-S	1044460 36	754665 80	643 73
SC-17404-S	1044444 33	754694 29	644 04
SC-17405-S	1044428.28	754723 09	644 78
SC-17407-S	1044447 72	754621 40	640 92
SC-17408-S	1044431.73	754650.01	643 12
SC-17409-S	1044415 70	754678.58	643 50
SC-17410-S	1044399 66	754706.84	644 86
SC-17411-S	1044383.64	754735 53	644 51
SC-17412-S	1044367.62	754764.35	645 74
SC-17413-S	1044351.59	754792 96	646 84
SC-17414-S	1044335.55	754821 50	647 50
SC-17416-S	1044419.12	754605 14	641 35
SC-17417-S	1044403.09	754633.88	643 18
SC-17418-S	1044387.08	754662.65	643.88
SC-17419-S	1044371.05	754691 17	644 79
SC-17420-S	1044355.01	754719.67	644.94
SC-17421-S	1044339.00	754748 35	646 23
SC-17422-S	1044322.95	754776 90	646.85
SC-17423-S	1044306.99	754805 71	647 18
SC-17501-C	1044409.83	754588 04	643.20
SC-17502-S	1044390.46	754589 08	641.32
SC-17503-S	1044374 47	754617 76	643 06
SC-17504-S	1044358.44	754646 39	643 41
SC-17506-S	1044361.88	754573 00	641 13
SC-17507-S	1044345.83	754601 83	642 41
SC-17508-S	1044329 79	754630 32	642 18
SC-17509-C	1044352 56	754555 96	643.83
SC-17510-S	1044333.24	754557 25	640 97
SC-17511-S	1044285 08	754642 63	643 51

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SC-17512-S	1044301.16	754614.18	642.29
SC-17514-S	1044304.60	754540.93	640.21
SC-17515-S	1044288.57	754569.57	642.45
SC-17516-S	1044272.58	754598.32	642.77
SC-17517-C	1044295.30	754523.73	647.28
SC-17518-S	1044275.97	754524.88	645.81
SC-17519-S	1044259.98	754553.73	641.80
SC-17520-S	1044243.88	754582.13	642.61
SC-17522-S	1044247.37	754509.05	643.08
SC-17523-S	1044231.32	754537.60	639.82
SC-17524-S	1044215.40	754566.41	641.90
SC-17601-S	1044342.39	754674.83	644.33
SC-17602-S	1044326.36	754703.54	645.05
SC-17603-S	1044310.35	754732.24	645.62
SC-17604-S	1044294.28	754760.66	646.39
SC-17605-S	1044278.35	754789.58	646.77
SC-17606-S	1044313.78	754658.89	644.03
SC-17607-S	1044297.78	754687.66	644.48
SC-17608-S	1044281.71	754716.16	645.25
SC-17609-S	1044265.69	754744.82	645.87
SC-17610-S	1044249.67	754773.43	646.42
SC-17611-S	1044285.08	754642.63	643.51
SC-17612-S	1044269.02	754671.21	643.54
SC-17613-S	1044253.10	754700.17	644.55
SC-17614-S	1044237.04	754728.70	645.73
SC-17615-S	1044221.17	754757.71	645.72
SC-17616-S	1044256.57	754627.05	643.18
SC-17617-S	1044250.50	754655.55	643.85
SC-17618-S	1044224.38	754683.97	644.44
SC-17619-S	1044208.50	754712.86	644.67
SC-17620-S	1044192.35	754741.28	644.87
SC-17701-S	1044290.87	754834.07	646.80
SC-17702-S	1044274.86	754862.74	645.34
SC-17703-S	1044258.79	754891.35	644.70
SC-17704-S	1044242.67	754919.84	643.52
SC-17705-S	1044262.19	754817.96	646.39
SC-17706-S	1044246.35	754846.93	645.19
SC-17707-S	1044230.23	754875.39	643.92
SC-17708-S	1044214.05	754903.83	643.47
SC-17709-S	1044233.65	754802.10	645.64
SC-17710-S	1044217.68	754830.82	644.24
SC-17711-S	1044201.60	754859.37	644.10
SC-17712-S	1044185.53	754887.94	643.39
SC-17713-S	1044205.02	754786.09	645.44
SC-17714-S	1044189.08	754814.80	644.27
SC-17715-S	1044173.01	754843.39	643.66
SC-17716-S	1044156.86	754871.88	643.16
SC-17717-S	1044176.37	754770.00	644.11
SC-17718-S	1044160.41	754798.74	644.00
SC-17719-S	1044144.57	754827.55	643.30
SC-17720-S	1044128.34	754855.95	642.31
SC-17801-S	1044226.80	754948.65	643.10
SC-17802-S	1044210.77	754977.29	641.71
SC-17803-C	1044203.21	755024.54	646.35
SC-17803-S	1044194.66	755005.87	637.83
SC-17804-S	1044197.99	754932.47	642.87
SC-17805-S	1044182.15	754961.26	641.78
SC-17806-C	1044174.36	755009.30	646.63
SC-17806-S	1044166.08	754989.88	637.61
SC-17807-S	1044169.48	754916.56	642.88
SC-17808-S	1044153.39	754945.15	641.80
SC-17809-S	1044137.39	754973.80	638.21
SC-17810-S	1044140.81	754900.50	642.34
SC-17811-S	1044125.00	754929.30	641.49
SC-17812-C	1044115.83	754978.41	645.95

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SC-17812-S	1044109.03	754957 94	639.22
SC-17813-S	1044112.42	754884.66	641.90
SC-17814-S	1044095.87	754912.92	641.45
SC-17815-S	1044080.15	754941.75	639.38
SC-17816-S	1044083.45	754868.37	640.93
SC-17817-S	1044067.65	754897.18	641.45
SC-17818-C	1044058.02	754947.87	646.75
SC-17818-S	1044051.68	754925.81	640.72
SC-17819-S	1044055.33	754852.74	641.63
SC-17820-S	1044038.67	754880.91	640.44
SC-17821-S	1044023.11	754909.82	639.19
SC-17822-S	1044007.10	754938.45	649.95
SC-17901-S	1044163.50	754725.26	644.67
SC-17902-S	1044147.41	754753.83	643.17
SC-17903-S	1044131.88	754782.71	643.78
SC-17904-S	1044115.70	754811.27	642.61
SC-17905-S	1044099.65	754839.84	641.72
SC-17906-S	1044134.99	754709.29	644.49
SC-17907-S	1044119.45	754738.16	644.72
SC-17908-S	1044103.17	754766.65	643.57
SC-17909-S	1044086.89	754795.11	641.31
SC-17910-S	1044070.89	754823.73	641.63
SC-17911-S	1044106.40	754693.27	644.11
SC-17912-S	1044090.35	754721.87	644.86
SC-17913-S	1044074.64	754750.68	644.37
SC-17914-S	1044058.56	754779.30	642.23
SC-17915-S	1044042.70	754808.07	641.49
SC-17916-S	1044077.81	754677.26	643.64
SC-17917-S	1044061.53	754705.77	644.18
SC-17918-S	1044045.90	754734.59	644.05
SC-17919-S	1044029.85	754763.21	642.51
SC-17920-S	1044013.96	754791.94	641.15
SC-18001-S	1044227.90	754610.95	642.55
SC-18002-S	1044211.91	754639.51	642.97
SC-18003-S	1044195.68	754668.08	643.62
SC-18004-S	1044179.40	754696.60	643.65
SC-18005-S	1044199.78	754594.93	642.83
SC-18006-S	1044182.95	754623.43	643.12
SC-18007-S	1044167.09	754652.06	643.52
SC-18008-S	1044150.83	754680.62	643.74
SC-18011-S	1044202.47	754521.57	645.99
SC-18012-S	1044186.23	754550.17	638.86
SC-18013-S	1044170.90	75578.85	642.52
SC-18014-S	1044154.60	754607.45	643.66
SC-18015-S	1044138.87	754636.16	643.95
SC-18016-S	1044122.41	754664.66	644.01
SC-18018-S	1044173.82	754505.55	643.54
SC-18019-S	1044158.16	754534.19	645.25
SC-18020-S	1044142.16	754562.83	641.95
SC-18021-S	1044126.23	754591.44	642.82
SC-18022-S	1044109.59	754619.96	643.35
SC-18023-S	1044093.75	754648.63	643.87
SC-18102-C	1044151.87	754513.93	643.82
SC-18103-S	1044129.39	754518.16	642.63
SC-18104-S	1044113.59	754544.32	645.70
SC-18105-S	1044097.27	754575.40	641.11
SC-18106-S	1044081.49	754604.03	641.23
SC-18108-S	1044100.77	75402.11	639.02
SC-18109-S	1044084.75	754530.75	640.16
SC-18110-S	1044068.60	754559.35	638.24
SC-18111-S	1044052.96	754588.04	639.49
SC-18114-C	1044078.61	754511.90	638.31
SC-18114-S-RS	1044056.62	754514.59	635.27
SC-18115-S-RS	1044040.39	754543.30	632.17
SC-18116-S-RS	1044024.49	754571.96	636.28

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SC-18119-S	1044011.35	754527.31	633.55
SC-18120-S	1043995.55	754555.95	640.78
SC-18122-S	1043982.80	754511.30	633.31
SC-18123-S	1043966.88	754539.93	635.06
SC-18124-S	1043930.41	754541.44	636.14
SC-18126-S	1043938.29	754523.89	635.57
SC-18127-S	1043953.43	754562.62	634.41
SC-18201-S	1044065.12	754632.60	642.42
SC-18202-S	1044049.32	754661.29	642.75
SC-18203-S	1044033.12	754689.83	642.96
SC-18204-S	1044017.17	754718.50	643.33
SC-18205-S	1044037.01	754616.72	640.15
SC-18206-S	1044021.00	754645.39	641.42
SC-18207-S	104404.51	754673.82	641.67
SC-18208-S	1043988.54	754702.48	641.99
SC-18209-S	1044008.20	754600.64	629.74
SC-18210-S	1043992.04	754629.23	639.66
SC-18211-S	1043976.07	754657.88	639.90
SC-18212-S	1043960.50	754686.81	641.36
SC-18213-S	1043979.24	754584.63	637.00
SC-18214-S	1043963.18	754613.34	639.02
SC-18215-S	1043947.37	754641.82	640.86
SC-18216-S	1043931.49	754670.39	640.92
SC-18217-S	1043951.04	754568.58	642.64
SC-18218-S	1043934.60	754597.11	637.09
SC-18219-S	1043918.73	754625.79	634.78
SC-18220-S	1043903.10	754654.42	640.05
SC-18301-S	1044026.45	754836.51	641.31
SC-18302-S	1044010.45	754865.18	639.73
SC-18303-S	1043994.46	754893.85	638.68
SC-18304-S	1043978.01	754921.89	647.91
SC-18305-S	1043997.84	754820.50	641.16
SC-18306-S	1043981.50	754848.79	640.40
SC-18307-S	1043965.48	754877.90	637.74
SC-18308-S	1043949.59	754906.16	647.13
SC-18309-S	1044001.40	754747.04	642.63
SC-18310-S	1043985.19	754775.80	641.61
SC-18311-S	1043969.21	754804.37	640.17
SC-18312-S	1043953.16	754833.04	639.36
SC-18313-S	1043937.28	754861.51	636.84
SC-18314-S	1043921.03	754890.33	646.32
SC-18315-S	1043972.50	754731.20	641.94
SC-18316-S	1043956.66	754759.70	641.15
SC-18317-S	1043940.16	754787.99	640.25
SC-18318-S	1043924.40	754816.91	638.96
SC-18319-S	1043908.44	754845.57	638.34
SC-18320-S	1043892.45	754874.27	646.67
SC-18321-S	1043944.02	754715.15	641.02
SC-18322-S	1043928.03	754743.83	642.00
SC-18323-S	1043911.95	754772.41	636.53
SC-18324-S	1043896.00	754800.76	639.58
SC-18325-S	1043879.96	754829.36	638.33
SC-18326-S	1043864.00	754857.91	645.51
SC-18401-S	1043915.32	754699.07	635.16
SC-18402-S	1043899.47	754727.77	641.09
SC-18403-S	1043883.34	754756.06	640.41
SC-18404-S	1043867.32	754784.82	639.64
SC-18405-S	1043851.43	754813.15	638.12
SC-18406-S	1043835.17	754842.27	645.30
SC-18407-S	1043886.56	754682.98	640.44
SC-18408-S	1043870.62	754711.69	640.52
SC-18409-S	1043854.50	754740.23	639.87
SC-18410-S	1043838.65	754768.92	639.59
SC-18411-S	1043822.73	754797.20	638.37
SC-18412-S	1043806.51	754826.40	646.59

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SC-18413-S	1043857.99	754667.00	639.76
SC-18414-S	1043842.04	754695.67	639.91
SC-18415-S	1043825.89	754724.23	639.54
SC-18416-S	1043810.03	754752.80	638.93
SC-18417-S	1043794.06	754781.30	638.13
SC-18418-S	1043777.94	754810.16	646.48
SC-18419-S	1043829.41	754650.99	639.19
SC-18420-S	1043813.36	754679.63	639.40
SC-18421-S	1043797.34	754708.23	639.45
SC-18422-S	1043781.33	754737.05	638.50
SC-18423-S	1043765.34	754765.39	639.83
SC-18424-S	1043749.42	754793.80	645.82
SC-18501-S	1043922.19	754552.53	636.15
SC-18502-S	104396.02	754581.11	637.08
SC-18503-S	1043889.98	754609.74	638.41
SC-18504-S	1043874.15	754638.43	639.22
SC-18506-S	1043909.45	754507.87	633.86
SC-18507-S	1043893.55	754536.48	630.64
SC-18508-S	1043877.50	754565.18	635.80
SC-18509-S	1043861.34	754593.76	638.31
SC-18510-S	1043845.44	754622.38	638.88
SC-18513-S	1043864.92	754520.49	633.82
SC-18514-S	1043848.91	754549.07	634.36
SC-18515-S	1043832.85	754577.81	635.03
SC-18516-S	1043816.86	754606.30	636.21
SC-18518-S	1043836.29	754504.45	632.55
SC-18519-S	1043820.27	754533.07	634.27
SC-18520-S	1043804.26	754561.77	634.07
SC-18521-S	1043788.23	754590.36	635.19
SC-18522-S	1043916.51	754583.10	633.71
SC-18523-S	1043945.31	754568.06	631.38
SC-18601-S	1043800.80	754635.09	637.36
SC-18602-S	1043784.80	754663.54	640.78
SC-18603-S	1043768.77	754692.17	640.42
SC-18604-S	1043752.77	754721.03	636.02
SC-18605-S	1043736.71	754749.47	638.69
SC-18606-S	1043720.57	754778.52	644.25
SC-18607-S	1043772.23	754619.04	629.20
SC-18608-S	1043756.17	754647.70	627.96
SC-18609-S	1043740.13	754676.16	626.64
SC-18610-S	1043724.18	754704.99	626.32
SC-18611-S	1043708.14	754733.51	634.49
SC-18612-S	1043692.09	754761.98	643.19
SC-18613-S	1043743.64	754603.10	626.02
SC-18614-S	1043727.51	754631.50	624.32
SC-18615-S	1043711.56	754660.24	625.01
SC-18616-S	1043695.74	754689.21	625.82
SC-18617-S	1043679.47	754717.44	633.08
SC-18618-S	1043663.40	754746.23	641.98
SC-18619-S	1043650.82	754701.40	634.60
SC-18620-S	1043634.80	754730.06	639.61
SC-18621-S	1043622.20	754685.38	638.38
SC-18622-S	1043606.13	754714.08	644.61
SC-18701-S	1043673.71	754526.20	637.85
SC-18702-S	1046357.69	754554.89	639.51
SC-18703-S	1043641.66	754583.46	640.60
SC-18704-S	1043625.61	754612.00	641.79
SC-18705-S	1043609.61	754640.73	642.59
SC-18706-C	1043605.51	754688.99	643.27
SC-18706-S	1043593.60	754669.40	642.60
SC-18707-C	1043666.93	754509.70	635.17
SC-18708-S	1043645.10	754510.33	635.29
SC-18709-S	1043629.07	754538.91	637.16
SC-18710-S	1043613.04	754567.48	638.67
SC-18711-S	1043596.97	754595.95	640.00

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SC-18712-C	1043590.74	754645.66	640.94
SC-18712-S	1043580.95	754624.63	641.69
SC-18716-S	1043600.43	754522.78	638.14
SC-18717-S	1043584.37	754551.35	640.16
SC-18718-S	1043568.34	754579.95	642.80
SC-18720-C	1043593.25	754508.15	636.54
SC-18721-S	1043571.82	754506.88	638.08
SC-18722-S	1043555.74	754535.28	640.47
SC-18726-S	1043527.43	754519.54	641.24
SC-18803-S	1043791.64	754517.00	634.47
SC-18804-S	1043775.64	754545.75	638.75
SC-18805-S	1043759.63	754574.41	637.32
SC-18807-S	1043762.96	754500.78	632.33
SC-18808-S	1043747.06	754529.83	636.97
SC-18809-S	1043731.01	754558.37	639.38
SC-18810-S	1043714.89	754586.80	628.31
SC-18811-S	1043698.95	754615.62	623.80
SC-18812-S	1043682.90	754644.18	624.43
SC-18813-S	1043666.80	754672.70	624.80
SC-18816-S	1043718.27	754514.10	634.63
SC-18817-S	1043702.39	754542.44	639.43
SC-18818-S	1043686.32	754570.83	633.17
SC-18819-S	1043670.28	754599.45	631.35
SC-18820-S	1043654.25	754628.04	632.06
SC-18821-S	1043638.25	754656.80	633.12
SC-39601-U	1043909.66	754568.24	641.70
SC-39602-U	1043879.86	754580.61	645.26
SC-39603-U	1043850.24	754594.15	649.02
SC-39604-U	1043820.29	754605.42	652.49
SC-39605-U	1043787.16	754611.22	654.75
SC-39606-U	1043759.97	754614.19	659.03
SC-39607-U	1043901.69	754528.21	638.52
SC-39608-U	1043872.01	754543.47	640.06
SC-39609-U-RS	1043841.92	754555.18	644.56*
SC-39610-U	1043812.63	754567.56	650.61
SC-39611-U	1043782.83	754577.80	655.00
SC-39612-U	1043750.28	754583.21	661.12

* approximate elevation as determined by as-built topo